AN EVALUATION OF THE DEFINITION OF THE PROTECTED LANDSCAPE: A CASE STUDY OF HÄCKEBERGA NATURVÅRDSOMRÅDE, SWEDEN, AND THE BUFFALO NATIONAL RIVER, UNITED STATES

By

MARK DANIEL LYNN CARPER

Bachelor of Arts

Oklahoma State University

Stillwater, Oklahoma

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Thesis Approved:

Dale Lightfoot
Thesis Adviser

Deborah Salaya

Wayne B. Powell
Dean of the Graduate College

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CHAPTER I.

INTRODUCTION

> It is not likely that we shall ever find sustenance on any other celestial body beyond the earth. Some may provide temporary abode, but none other than the earth can harbor us on into the future. And here we have only a hairline two-dimensional surface upon which to place our feet. There will never be habitation for us down in the grinding superheated interior. We are not at ease and can never remain for long in the air above, and in its waters we drown. Where the earth's gaseous envelope meets dry land is our natural domain, and today we stand dominant upon it. We now exercise the power to change and mutilate it in ways undreamed of a generation ago. With that power we now course the skies like angels and live like gods on terra firma. If we have at last become as gods, it is now past time to extend to the earth and all its creatures the compassion and understanding that we have hitherto assigned to the gods (Compton 1992, p. xi).

Lessening our impact on the environment may take many forms. As individuals we alter our habits of consumption. We choose durable, reusable, or recycled goods rather than disposable items that will sit in a landfill, never to degrade. Rather than drive alone in an automobile along with the countless others, we walk, ride a bicycle, or utilize public transportation. We use products, such as phosphate free detergents, that have a less harmful effect on the environment. Making such changes in behavior is determined, to a large degree, by the availability of alternatives. But in economies driven by demand, the availability of alternatives is not simply bequeathed by a detached and independent entity. Alternatives become innovations when they are embraced and become part of the production/consumption dynamics. Recognition of problems associated with modernity has inspired various environmentally redemptive actions, i.e. changes in political agendas

and production/consumption structures (Beck 1992; Lash, Szerszynki, and Wynne 1996). The collective assertion of individuals, then, can generate socioeconomic changes, causing a response from government and industry. However, an agreement of need and an organization of voice are required.

But limiting the assertion of individuals may be needed, as well, for environmental protection. Placing restrictions on the use of natural resources, such as through the establishment of protected areas, may limit the spectrum of choices available to the individual and be unpopular. Reaching a balance between individual autonomy and the common good is a complex matter requiring cooperation among disparate groups and the bridging of socioeconomic and value differences. The greening of technologies, the education of the public about environmental issues, and the establishment of protected areas are formalized and group centered means for environmental protection.

Protected areas receive various degrees of restrictions to their use placed upon them. Limitations oriented toward preservation may be strict, such as for nature preserves, providing threatened species a respite from damaging human activity. Other protected areas are less restrictive, more conservation oriented, and allow for various human activities. The *Protected Landscape/Seascape* is a classification of protected area (The World Conservation Union 1994) that places formalized protection for a landscape while encouraging continued human use. With the combined effects of increased demand for resources and continuing threats to the health of the environment, schemes combining nature protection as well as utilization of the land becomes essential to the concept of conservation and sustainability.

Purpose of the Study

The purpose of this study is to examine two protected areas and place their establishment and functionality within the context of individual, local, regional, national, and international cooperation for conservation and sustainability. Häckeberga Naturvårdsområde, located in southern Sweden, and Buffalo National River, located in the central United States, differ in many ways (Figure 1).

Established in 1981[1], and consisting of 4,482 hectares (11,075 acres), Häckeberga Naturvårdsområde is a private estate, although considerations for its natural conservation are determined by a provincial administration, which in turn acts in accordance with national mandates for environmental protection. It and the surrounding area have undergone a high degree of settlement and land use. The estate makes up a portion of a relatively small ridgeline in the undulating terrain of southern Sweden. Protection was established for the preservation of natural and cultural features significant to the area.

The Buffalo National River, established in 1972 and consisting of 38,100 hectares (94,145 acres), is largely public land managed by the National Park Service. Activities on the small inholdings of private land located within the boundaries of the park face restrictions in accordance with the river's management plan (National Park Service 1977). Due to the rough terrain of the Ozark Mountains through which the river runs, settlement in this area has been sparse. Having long received attention for possible damming, the river was given national protected status for the sake of preserving a free flowing river, preserving the natural and cultural heritage of the region, and for providing opportunities for recreation.

Figure 1. Study Countries - Sweden and the United States of America

Despite the differences in natural and cultural histories, in size and topography, and in national classification and management schemes, these two protected areas are united in their international categorization for protected areas. In a classification scheme for protected areas developed by the World Conservation Union (IUCN) and the World Conservation Monitoring Centre (WCMC) the two areas are catalogued as *Protected Landscapes/Seascapes* (The World Conservation Union 1994). This classification is applied to protected areas whose management objectives are to conserve and make available for recreation landscapes possessing a "distinct character with aesthetic, ecological and/or cultural value, and often with high biological diversity" (World Conservation Monitoring Centre 1998 - protected areas/data/define.htm, p.2) that have

been created due to the interaction of man and nature over time. This study will explore how these disparate protected areas fulfill this management objective within the context of cross-institutional and multilevel cooperation.

Objectives of the Study

The objective of this study is to compare and contrast the physical and cultural differences of these two protected landscapes and the differences in approach toward their establishment and continued management. This requires the consideration of political, economic, and social factors at the national, regional, and local levels. It is hoped that such an investigation will highlight the degree of multilevel cooperation and the integration of local activities in the national objectives. The establishment and subsequent means of management will serve as an expression of the regional and national goal of sustainability.

Research Questions

There are several issues to be examined during this investigation. What are the means utilized by Häckeberga Naturvårdsområde and the Buffalo National River in achieving functionality of these protected landscapes? (Functionality is to be understood as the capacity to qualify for the international classification as *Protected Landscape/Seascape* and to achieve the goals for protection and utilization of the sites.) How do they fit into the international and the respective national management objectives? What are the reasons for any variations in these mechanisms and practices between the two sites? What role do the sites play in the goal of sustainability for these developed nations?

Research Expectations

Certain expectations will accompany this investigation and will serve in the comparison of the two sites:

1). While all levels of institutions are involved in the establishment of these protected landscapes, their successful functionality is the result of localized efforts.

2). The two sites (and their accompanying institutions) display a nearly equivalent amount of inter-level cooperation in the implementation of protected status.

3). Both sites will qualify for their international classification of *Protected Landscape/Seascape*, but the degree to which this is done is dependent on the various physical and cultural activities that have played a role in the respective areas.

Significance of the Study

Having different degrees of restrictions, protected areas play a vital role in an environmental care system. But they are not islands, and they must be viewed and managed with adjacent lands in mind. Just as the physical world is a large, complex system composed of many smaller interdependent subsystems, the social world also contains such complexity and interdependence. The relationship between protected areas and adjacent lands is a question of both physical and human factors. The physical relationship is most obvious; the passing of air, water, and wildlife across space being a few examples. The involvement of humans with the landscape – as well as with each other – can be conceptualized in terms of social, economic, and cultural processes.

The values that are placed on such connections – both physical and human – will largely determine the degree of sustainability that may be achieved. This study examines two protected areas in two highly economically developed nations. These protected areas, according to the international classification of *Protected Landscapes/Seascapes*, are the result of the interaction between humans and nature over time. Considering both our present and future generations' need to utilize the landscapes, studying areas with management objectives such as those applied to this classification would be beneficial for understanding how to best integrate the needs of society while preserving the physical environmental system that sustains our lives. With the high demand for resources by developed nations, understanding their successes at integrating land uses harmoniously can be of value to countries moving toward a similar degree of economic development, but without the degree of pollution usually associated with it. Looking at the evolution of conservation practices in developed countries can offer insight into the effectiveness of policies and practices in a variety of local, national, and international situations. Other planning commissions can use this knowledge to take actions to avoid possible pitfalls.

Scope and Limitations

While this study addresses large and complex topics such as economics and social theories, discussion of them is entirely for the purpose of placing the examination of the two protected areas in a broader context. No quantitative model will be introduced for measuring the myriad connections that will be explored in this work. The methodology applied will be strictly qualitative and will thus carry with it the strengths and weaknesses of such investigative methods. In addition, although quite evident, it should be pointed

out that only two locations, and their respective countries, will be examined. It is anticipated that such a study can reveal useful information applicable to other situations. However, given that every situation is unique, every detail may not be easily transferable to other circumstances.

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[1] Note. Englesson (1981) states that establishment was 1980, The world Conservation Union (1994) reports 1981, but the official declaration (Länsstyrelsen) was written in 1982.

CHAPTER II.

REVIEW OF THE LITERATURE

The Complexities of Conservation

> 'Pristine nature' is a fine myth, carrying with it satisfying images of an idealized natural area which has not yet been disturbed by the pernicious effects of humanity. Conservationists have sought to convert this myth into reality by establishing so-called 'wilderness areas.' By 1993, the United Nations List of National Parks and Protected Areas included some 9832 sites covering 9,263,496 square kilometers, equivalent to the total land area of the USA. About half of this area is in the form of wilderness areas, strict nature reserves and national parks and monuments, where human influence is supposed to be minimal. But recent advances in ecology, landscape history and the social sciences have clearly indicated that nearly all the landscapes we see today in all parts of the world have been profoundly influenced by human activity in the past. Thus even the most 'natural-appearing' habitats are in fact cultural habitats, largely created by human influence. And seeking to maintain these areas in their current state, with their current mix of species, is also a cultural response – a purposeful intervention by people to maintain something they value (Furze, De Lacy, & Birckhead 1996 p. ix).

The utilization of natural resources is subject to varying value systems, incongruous levels of technical and economic strengths, and antipathetic political agendas. These variations extend across assorted levels and boundaries – as do problems of pollution – and, therefore, conservation necessitates cooperation at many various levels: individual, local, regional, national, and international (Prittwitz 1990). But such cooperative efforts are complex, often involving discordant political, social, and economic actors and institutions. Highly consumptive societies, driven by the intensely combined energies of

modern economics, politics, and technology, may find great difficulty altering the behavior that compromises conservation efforts. Developing nations, with their ambitions of attaining similar standards of living, threaten to increase the global environmental strain. The path taken toward this development is often tied to international economic activities. National policies, designed to better the economic condition of a country or merely to repay debts, may adversely affect localized areas and their associated peoples.

While contracts for conservation between institutions have advantages, there are disadvantages as well. Creating environmental standards and policies gives an impression of ensuring environmental quality. Uniformity in these standards and the rules governing them allow for varying businesses to work together. The disadvantages are that environmental standards tend to be fixed at the lowest common denominator, creating a sort of "pollution allowance." Areas interested in integrating more ecological policies may be inhibited from doing so for fear of having an economic disadvantage (Prittwitz 1990).

The goal of the World Conservation Strategy is ... "the integration of conservation and development to ensure that those modifications which occur in the world environment are such as will secure the survival and well-being of all people" (Lucas 1984, p. 73). With such disparaging complexity and competing interests, is it possible to achieve the opposing missions of environmental conservation and economic growth, and to attain this paradoxical state of sustainable development? What is sustainable development? This concept has evolved and undergone a variety of interpretations.

Although international agreements had already been made – the 1959 treaty governing Antarctica, the partial nuclear test ban of 1963, and the 1967 treaty governing the exploration of outer space - significant international attention and discussion toward the environment first occurred at the 1972 UN Conference on the Human Environment held in Stockholm. The Stockholm Conference emphasized three enduring subjects: the ideas of limits to growth, that self-interested behavior creates the 'tragedy of the commons,' and that the environmental crises demanded the action of a firm authority to avoid the problems of a scarcity society (Conca, Alberty, & Dabelko 1995).

The first theme emphasized by the Stockholm Conference is thoroughly discussed in the publication *The Limits to Growth* (Meadows, Meadows, Randers, & Behrens 1972). Of concern here was global equilibrium, a balancing of opposing forces. These forces were those that caused population and capital stock to either increase or decrease. Increasing agents included the desire for large families, lack of effective birth control, and high rates of capital investment. Agents of decrease included pollution, famine, and high rates of depreciation in the value of goods and investments.

This model's strict focus on population and capital ignored other important values as well as the advent of innovations. The additional values included education, art, and social interactions, all pursuits with great potential for growth. Innovations in resource use technologies, means of production, and consumer demands could change the flow of capital as well as counter effecting an increasing population. Realization of this brought a less pessimistic view of the dangers faced and a more assertive goal of solving the dilemmas (Ruse 1994).

Garrett Hardin (1968) introduced the notion of the tragedy of the commons. His contention was that if a common resource were made openly available to all, a common resource, the individualistic efforts to maximize personal profit would eventually destroy that resource. The rationale behind his conclusion was the idea that an individual would receive the gains of resource use, while losses or environmental destruction would be divided amongst the populace in general. Self-interest, combined with open access, was the cause of environmental degradation. To avoid such tragedies, Hardin suggested that open access must either be restricted by the government or replaced with enforceable private property rights. Individual ownership would mean that both the cost and the benefit would be fully realized by the actor, thus encouraging wise and sustainable use of the landscape.

While this model has shaped the thinking of environmental policy makers both at the local and at the international level, it has received criticism for its simplistic view. Buck (1995) pointed out that the example utilized for Hardin's discussion, the disappearance of the commons in medieval England, was not accurate. Hardin blamed individualism and open access while Buck discusses the other more significant causes for the decline of the commons: the industrial revolution, agrarian reform, and unequal exploitation by the wealthier. Feeny et al. (Feeny, Berkes, McCay, & Acheson 1995) examined a number of natural-resource studies subject to tragedy of the commons and found that the likelihood of over-consumption depended on the types of social rules governing resources and environmental systems. Private property rights was just one of the techniques that could be utilized to ensure sustainability. Land tenure and traditional land rights are often the biggest obstacle to establishing conservation practices, as there are conflicting interests.

Although they are not necessarily mutually exclusive from each other, these interests can be demarcated into three basic types (Table 1).

1) *polluter interests*, in which benefit is received from polluting activity and there is a wish to keep environmental protection costs low
2) *victim interests*, which suffers from pollution and wants to stop the pollution cause as quickly and completely as possible
3) *third party interests*, which gains advantage by assisting in environmental protection measures. This group includes lawyers and those who offer substitutes for polluting goods.

Table 1. Various environmental interest orientations. Prittwitz 1990

The political consequences of the limits to growth and the tragedy of the commons were suggested by William Ophuls (1995). Ophuls declared that to avoid ecological disaster, strong governmental control, the type that is discordant with current democratic values, would need to be implanted. Before physical limits were reached, individual behavior would need to be regulated and environmentally destructive activity would need to be penalized. Ophuls does go on to say that there is a way out of this "depressing scenario." A "democracy of restraint" would be one in which human gratification was voluntarily decoupled from material consumption. Such a society would require consensus and timely response to environmental problems, acomplishments that Ophuls thought unlikely. However, there is evidence of such changes in modern societies and their willingness to respond to ecological threats (Beck 1992).

The topic of sustainable development was addressed by the Brundtland Commission and the publication of the outcome of that meeting, *Our Common Future* (United Nations World Commission on Environment and Development 1987). The objective of this

commission was to develop a strategy to promote harmony between peoples and between humans and nature. Sustainable development was defined as development that would satisfy the needs of the present without compromising the needs of the future. Two concepts were to be of key importance: the concept of needs - particularly of the world's poor - and the limitations of technology and social organizations. The limit to global development is dependent on the availability of energy resources and the environment's capability to absorb the by-products of energy use. The idea of sustainability requires that the views of human needs incorporate non-economic variables such as education and a healthy environment with clean air and water.

The next international environmental conference occurred just a few years later. The 1992 UN Conference on the Environment and Development in Rio, also known as the Earth Summit, saw a markedly greater amount of participation. The issues were more complex, revealing the new scientific paradigm that viewed the environment as an integrated system in which humankind plays an important role. Using this increased knowledge and methods for monitoring, nations have increased the number of agencies responsible for environmental protection. While the mass consumption of natural resources by affluent societies continues to be a problem, the Rio Conference gave recognition to the fact that concern about environmental degradation was not limited to developed nations. As a result of the conference environmental problems associated with poverty and the struggle for development began to receive significant attention (Conca, et al. 1995).

Sustainability requires that equal weight be given to environmental, social, and economic concerns. These concerns are shared by developed and developing nations

alike. As a follow up to the United Nations Conference on Environment and Development, the Organization for Economic Cooperation and Development (OECD) held a workshop in late 1993 bringing together numerous countries to discuss experiences and future plans for implementing national plans for sustainable development. A number of conclusions were drawn from their discussions. One surprising outcome was the realization that no single model exists that can be universally applied to national plans for sustainability. Because of physical environments and varying cultural histories, each case is unique, and a national plan must be tailored to a particular situation (Organization for Economic Cooperation and Development 1995). National environmental policies must be designed to function within the structural elements of a socio-ecological system (Table 2).

Given the complexities of conservation and sustainability, the various levels of political, social, and economic interests, the following definition of sustainability is offered:

> Sustainability is a community's control and prudent use of all forms of capital ...to ensure, to the degree possible, that present and future generations can attain a high degree of economic security and achieve democracy while maintaining the integrity of the ecological systems upon which life and production depends. (Viederman 1996, p. 46)

Capital, in the above definition of sustainability, receives consideration beyond the quantification of conventional economics. Nature's capital refers to the flow of natural resources, renewable and nonrenewable. Flow of natural resources can be understood in terms of resources that provide inputs into the economy and in terms of outputs of the economic system, such as waste assimilation. Human capital is the contributions brought

to communities and to production by people and their accumulated knowledge. Human-created capital are the items created by human such as various products, technologies, and built environments. Social capital is the activities of participation, civic involvement, and reciprocity. Cultural capital is the elements of a paradigm carried by a community, the factors that shape the community's values and define its relationship with the natural environment. These capitals create and support the pillars of sustainability: economic security, ecological integrity, and democracy. The balance of these capitals – be they of surplus or deficit – will determine the degree of sustainability (Viederman 1996).

This interpretation of sustainability emphasizes the community and its ability to take control and realize the value of the surrounding land. With a globalized economy it becomes questionable if localized management can be successfully maintained.

1) *Natural or Nature-Resembling Environment,* where human influence is limited,
2) *Over-Use of Scarce Resources,* where the environment is damaged or destroyed due to poverty,
3) *Classic Industrial Environmental Destruction,* where the environment and humans are harmed through concentrated production, consumption, and traffic,
4) *Modernized Environmental Destruction,* where high economic-technical development has caused noticeable environmental damage due to industrial production and the closely related consumption, distribution, and traffic complexes, and where environmental protection schemes have at least partly been developed, and
5) *Regaining Ecological Stability,* where the environmental problem is recognized as tied to the quantitative growth of the economy and society, and in which advances are made towards structural ecological policies (i.e. environmentally sound economic, traffic, or agricultural policies)

Table 2. Socioeconomic categorization of international environmental policies. Prittwitz 1990

The Need for Top-down and Bottom-up Approaches

I meant no harm. I most truly did not.
But I had to grow bigger. So bigger I got.
I biggered my factory. I biggered my roads.
I biggered my wagons. I biggered my loads
Of the Thneeds I shipped out. I was shipping them forth
To the South! To the East! To the West! To the North!
I went right on biggering ...selling more Thneeds.
And I biggered my money, which everyone needs (Suess 1972).

The increasing output and transboundary movement of pollutants as well as the socio-economic forces that drive and accelerate this 'progress' make the environment and the idea of sustainability an international challenge. The question then arises, How can the international community meet this challenge?

Anthropogenic activity is related to degradation of the biosphere, the hydrosphere, and the atmosphere. Continued growth in the world population and in the demand for finite resources is predicted to greatly increase the rate of environmental change (World Resource Institute 1994). An additional negative aspect of the exploding population is the social cost of unemployment. The next question then becomes, How can we slow down or bring to a halt these negative effects of anthropogenic activity?

The complexity of environmental modeling (Henderson-Sellers & McGuffie 1987) and the equally complex perceptions of the environment (Wiman 1991) cause difficulty in the policy making process. In addition to the varied perceptions of environmental risk come various political and economic competitions at various scales. For this reason, a top-down approach to sustainability is necessary, but it must also have mechanisms to ensure that intergovernmental agreements are adhered to (World Resource Institute 1994).

There is growing academic discussion condemning the dominant, knowledge-based paradigm as being destructive to traditional knowledge systems, as being in control of the development of technological innovations motivated by the profit motive, and of disempowering people as individuals with varying solutions to environmental problem solving (Shiva 1988). These writings declare that top-down development schemes are destructive both to ecological and cultural diversity, richness, and strength. The difficulty of taming the Schumpeter Dynamics, the intensely combined energies of modern economics, politics, technology, and consumption, supports these views (Krupp 1996).

Clearly both a bottom-up and a top-down approach is required, with the bottom-up approach needing greater emphasis. Since the earth is not a homogenous surface, local and regional ecosystem variations must be recognized and appreciated. Included in this are recognition of various indigenous peoples and the value of their localized and specialized knowledge. But as the earth struggles to face this challenge and eliminate (or at least reduce!) the disparity between North and South, top-down policies and practices are also needed to coordinate the shift in economies and transfers of technology (United Nations Conference on Environment and Development 1992).

The amount of success that can be achieved in the struggle to balance out a top-down or bottom-up approach is dependent on the values that individuals and societies carry. Perhaps the biggest struggle in achieving sustainability is in the ability of humans to change their behavior and to place positive value in diversity (Serageldin & Barrett 1995).

International Categorization of Protected Areas

> ...there are more than 2700 national parks and protected areas in over 120 different countries, and the number increases yearly. These areas are as diverse as the physical settings and cultural patterns of the nations that have established them, yet they all have one thing in common – they serve as special places where people go for spiritual, cultural, and physical renewal. Parks reflect a nation's desire to preserve for generations unborn its floral, faunal, and landscape diversity, as well as elements of its national and cultural heritage. In a world of rapid environmental change, parks and protected areas ideally represent islands of stability – places where environmental changes are dictated by the rhythms of nature rather than by human demography and economic demands (Wright & Mattson 1996, p. 3)

Worldwide listing of protected areas began in 1962 due to a resolution adopted by the United Nations General Assembly on Economic Development and Nature Conservation (World Conservation Monitoring Centre 1998a). The result was the publication of the *United Nations List of National Parks and Equivalent Reserves*. The World Conservation Union (IUCN) was invaluable in the preparation of the list of protected areas and has since held responsibility for the compilation and maintenance of the list, although now the responsibility is shared with the World Conservation Monitoring Centre (WCMC). The latest published edition of the list is titled *1993 United Nations list of national parks and protected areas* (The World Conservation Union 1994a), although the WCMC maintains an Internet site (World Conservation Monitoring Centre 1998a) that provides and updates information about the world's protected areas. The objective of the list is to provide information about individual protected areas and protected area systems to those who might require such information. Size, management objectives, and authority of management are the criteria for inclusion in the list. The site must be greater than 1,000 hectares in size, must fall within one of the classification schemes of management objectives, and must be managed by state or federal authority.

At each national level it is recognized that a variety of designations are used for protected areas. The same designation, then, may mean unlike things for different countries. Further, different designations in various countries may fall within the same international category of protected area. This, then, is the purpose of using a categorization scheme at the international level. It is based on management objectives rather than titles and is applied the same way in all countries. The comparison of data, such as sizes and types of protected areas, between countries becomes greatly improved.

Regional variations are to be expected as the conditions for the establishment of protected areas vary between countries. Regions with a long history of settlement and managed landscape, such as Europe, are not as suited to having protected areas that are highly restrictive of encroachment or development. Instead, they are more suited to the establishment of protected areas that allow for traditional utilization of the landscape as well as maintaining the local cultural and ecological heritage (World Conservation Monitoring Centre 1998b).

The size of a protected area should, naturally, be of sufficient size to accomplish the task being sought. Protection of a site-specific entity, which may be a natural monument such as geological feature or even a single tree, requires a relatively small area as compared to the area needed for protection of an entire ecosystem. The combination of classifications can serve an important role in attaining regional management objectives. For example, nesting strictly protected nature reserves or wilderness areas within a less restrictive resource use area can serve to buffer the reserve from heavy intrusion, while the resource use area allows more intense utilization for activities such as recreation or agriculture (World Conservation Monitoring Centre 1998b).

Responsibility for the existence and maintenance of a national system of protected areas lies with each national government. The importance of such areas should be recognized, and these areas should be part of a national strategy for conservation and sustainable development. Actual responsibility of the protected area, however, may reside with the central, regional or local government, non-governmental organizations, the private sector, or the local community. An important question is whether or not the designated management body is capable of achieving the management objectives for that protected area. Large protected areas that have a greater amount of restrictions are typically managed by a governmental body and tend to be publicly owned. The responsibility for smaller, less restrictive areas often rest with local administrations, usually working within the framework of national legislation, and tend to include privately owned land (World Conservation Monitoring Centre 1998b).

Successful management of a protected area depends upon the support of local communities. The managing authority must have a good rapport with a community, as well as have effective mechanisms to secure compliance with the management objectives. These management skills will need to extend beyond the protected area. In that they are not isolated units, being ecologically, economically, politically, and culturally linked to the surrounding lands, protected areas must be incorporated with regional planning, supported by the policies adopted for a wider area (World Conservation Monitoring Centre 1998b).

Protected areas, defined as an "area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means," (World Conservation

Monitoring Centre 1998b, p. 1) can fulfill a variety of social needs across a wide spectrum. They may be utilized for environmental protection or safeguards, such as the maintenance of a forest for watershed protection. Healthy ways to spend leisure time, considered essential for life in modern society, can be found in protected areas through such activities as hiking, rafting, and hunting. They serve as stations for scientific research, and also as refuges for stressed species through preservation of habitat. Given the interaction that humans have with the landscape, something that is greatly variable across the spectrum of societies and their varying degrees of technical knowledge and application, protected areas can also serve as arenas for the preservation of traditional or indigenous methods of livelihood. This aspect of protected areas is significant in that it also fosters a means of cultural preservation. Thus, protected areas fall under a variety of management objectives that are dependent on needs, priorities, legislation, and institutional and financial support (World Conservation Monitoring Centre 1998b).

The management objectives recognized by the IUCN and WCMC are divided into six categories (Appendix). It is classification V, *Protected Landscapes/Seascapes*, that will be addressed in this investigation. *Protected Landscapes/Seascapes* offer the greatest possibility of agreeable interaction between humans and the environment during modern times. This type of protection status lies between the extremes of area protection as either strict nature reserves or as areas managed solely for resource exploitation (Halvorson 1996). With an increasing population and with increasing demands made upon our natural resources, this type of land protection is likely to be prevalent in the future. Understanding the methods utilized to achieve these management objectives may prove to be helpful to other area managers facing similar goals. In addition, the examples

provided by these two protected areas, Häckeberga Naturvårsområde and the Buffalo National River, may serve well as models of multilevel cooperation, something perhaps to be emulated by other nations and locals as they reach or strive toward high levels of development. Both study sites will be examined to determine their adherence to the description below:

> **CATEGORY V:** *Protected Landscapes/Seascapes*: protected area managed mainly for landscape/seascape conservation and recreation. **DEEFINITION:** Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area (World Conservation Monitoring Centre 1998b, p. 2)
> .

The Value of Establishing Protected Areas

> How many national parks will there be in the year 2100? I probably won't be around to find out, but my best guess is: "None."
> "What a defeatist attitude," you might protest in alarm.
> "Quite the contrary," I would respond. "By the year 2100, nature may well be conserved reasonably well <u>without</u> national parks as we know them today, just as nature was conserved without national parks in most parts of the world just a generation or two ago." (McNeely 1988, p. 126)

Within this quote is optimism for the future - that the actions of societies will be in greater harmony with nature. But it also reveals the inability of today's societies to behave in an environmentally responsible manner. Protected areas, then, can compensate for this and contribute to the well being of societies (Table 3).

1). Protected areas help to maintain essential ecological processes.
2). They help in the preservation of biological and genetic diversity.
3). The productive capacities of ecosystems are maintained.
4). The historical and cultural features that are important to local peoples are preserved.
5). Habitats are maintained for species that are utilized by man.
6). The landscapes that enrich human experiences through their beauty are secured.
7). A number of social benefits such as opportunities for recreation, education, scientific research, training, community development, tourism, and the mitigation of natural hazards are possible through protected areas.
8). Protected areas serve as sources of national or regional pride and identity.

Table 3. Societal benefits of protected areas McNeely 1995

McNeely (1988) discusses the differences between 'biosphere people' and the 'ecosystem people.' Biosphere people draw their support not from one local ecosystem but from the world's capital, from its collected and produced resources. Ecosystem people, on the other hand, live within local ecological constraints. National parks and protected areas help to meet the needs of both groups in a variety of ways.

At a subsistence level of economy, simply stemming the depletion of natural resources through establishment of formal protection, is a type of economical assistance. Prevention of outside encroachment may also allow the continuation of a traditional form of livelihood, as well as sparing its associated social consequences, such as changes in cultural norms and mores. The positive aspect of protection for an area extends to societies beyond those living in relatively isolated locations. Individuals and groups that interact regularly with the modern economic world can benefit economically from their lands being under protected status. The economic advantages of protected areas even extend to entities outside the area itself, i.e. peripheral communities (though offering food

and lodging to visitors) and to national economies (as hard currencies are brought in from foreign tourists).

There are three types of economic "spin-offs" to the establishment of protected areas: direct benefits, added value, and permanence. Direct benefits include the creation of jobs associated with the park, such as rangers, maintenance, and tourist industry. Added value is when the economy of the area is affected by and dependent on the landscape and the landscape in turn depends on sound ecological management. The needs of the economy and of the environment are then interdependent. Permanence is achieved when the landscape and its benefits are sustainable. Thus, landscape protection can become an investment in the local economy (Burrell 1986).

For societies existing at a lesser stage of technological and economical development, ecological maladies are felt more immediately because their daily activities for survival are carried out in close contact with the physical environment. Although problems may arise due to national classification schemes and questions of what entity maintains power over the resource, protected areas can be of benefit to such societies, allowing them to retain their traditional means of livelihood. Marine reserves provide sustainability for sea life that can be utilized while land reserves do likewise for land species, often serving as sustainable sources of protein for local human inhabitants (Lucas 1984). By limiting encroachment into areas utilized for traditional forms of living, protected areas can serve to allow a culture, with all its forms of subsistence economy, to be maintained.

Economically developed societies can also benefit from protected areas by utilizing them for recreation, education, community development, and as a source of regional identity and pride. Parks provide a place for constructive use of leisure time through

positive, healthy outdoor recreation. Dependent upon the nature of the restrictions placed on the protected areas, activities such as camping, hiking, picnicking, hunting, fishing, and nature viewing may be pursued. These outdoor activities, then, are an opportunity to elude the rapid pace of modern urban living.

Protected areas also provide an opportunity for environmental education. Through this avenue, people can see natural process first-hand and come to understand the repercussions of human induced changes. As pressure to use resources continues to grow, an informed and sympathetic society is needed for sustainability to be achieved (Lucas 1984). Education, through generating a better understanding of the importance of the protected area, is a very effective method for long-term integration between protected areas and inhabitants of adjacent lands. Education centers provide the opportunity for visitors to learn about the environment and the importance of land management. Active participation in school programs, such as providing study kits or training for teachers, are other excellent ways of promoting environmental education and local sympathies toward a protected area. Direct use of the parks, such as study projects or educational competitions by schools, are additional avenues. In these ways children learn about the delicate balance of nature and, hopefully, develop respect for the earth that will endure for the remainder of their lives. Conservation and natural sciences curricula in schools and universities, held both in the classrooms and in the park, demonstrate interaction between the protected area and the region (Garratt 1984).

Natural landscapes also offer an arena for the development of character and self-reliance. Experiential education programs, such as Outward Bound and National Outdoor Leadership School (NOLS), utilized by individuals, corporations, and social

agencies, take small groups into unfamiliar terrain to test their resolve and to develop a sense of interdependence. Remote and wilderness areas are essential to the experience, and thus protection status is essential for this activity.

There is a heritage value associated with conservation. Preserving nature also helps in preserving national or regional pride and identity. The World Heritage Convention "encourages nations to identify features of their heritage that contribute significantly to the world's heritage in nature and culture" (Lucas 1984, p. 74). Selection as a World Heritage Site lends a stamp of international quality and qualifies an area for support from the World Heritage Fund. Many nations take pride in their natural heritage, as is often reflected in their national flags and symbols (Lucas 1984). Burial sites, archaeological sites, historic buildings, items of religious significance, or other cultural factors linking the community to the land can create a more localized sense of pride.

In terms of economics, ambivalence is often the response to conservation. Restrictions can often mean the denial of access to productive land or necessary fuel wood or mar result in the loss of other employment sources. While new forms of employment can be created via tourism, park protection, and park maintenance, a cultural adjustment may be necessary.

Forest reserves help to maintain watershed protection by replenishing aquifers and by preventing flooding and erosion. It is often less expensive to prevent a mishap than to correct it afterward. The function of a protected area may serve double duty as a means for watershed protection and soil conservation as well as a place for scenery preservation, recreation, and scientific study (Lucas 1984).

Preservation of genetic diversity can be considered both insurance and investment. It aids in sustaining agriculture and acts as a buffer against harmful environmental change. It also serves as raw material for scientific and industrial innovations, such as medicinal and bio-engineering potential. Sustainable utilization of protected areas has been likened to spending the interest while keeping the capital. Although this line of rationalization lacks any significant sense of intimacy with the natural environment, it is becoming a stronger and more acceptable justification for conservation in our utilitarian world (Pearce and Moran 1994).

A protected landscape is described by Phillips (1988) as an extensive and prominent area that is semi-natural, is in productive use, is inhabited, is primarily the responsibility of local government, and is commonly privately owned. The importance of such a category of area protection as a means of protecting biodiversity and the well being of society was the theme of an international symposium. This symposium led to the creation of the Lake District Declaration, the proceeding of which produced a set of beliefs (Table 4), a set of declarations (Table 5), and a set of conclusions (Table 6).

1). The harmonious interaction between people and the environment has created areas in many parts of the world that have out-standing value, beauty, and interests.
2). Due to human intervention, particular ecosystems were created, are maintained, and serve as protection of biodiversity. As undisturbed lands become rarer, biological richness will increasingly be guarded by protected landscapes, which can also serve as buffer zones for areas with stricter protection.
3). Protected landscapes serve as surviving pieces of human history and land-use practices as well as allowing indigenous populations to continue in their traditional means of livelihood.
4). They provide opportunities for leisure activities to sustain mental and physical health and to escape the stresses of modern life. They provide inspiration to writers and painters and give people the opportunity to learn about cultural diversity in the world.
5). Protected landscapes serve as models for the sustainable use of land and natural resources. They provide means for economic livelihood, are ecologically sensitive, and preserve the cultural identity of communities.

Table 4. Beliefs about protected landscapes. Foster 1988

1). Protected landscapes are essential for the present value they hold and for the contribution they make toward the practice of sustainable development.
2). Greater priority should be given to the concept and practice of protected landscapes, and there should be an exchange of experiences between nations.
3). Each of theses delicate landscapes are in dynamic equilibrium and changes must be guided so as to protect the inherent value of the landscape. Management that is sensitive to the ecological and social conditions of the area is crucial for the success of the management objectives. This can best be achieved by building on the social and economic links that exist between the land and its human residents.
4). Maintaining a vigorous economy and social structure within these protected landscapes is crucial for their continued protection.

Table 5. Declarations for protected landscapes. Foster 1988

- The crucial role played by protected landscapes in sustainable development and in the conservation of cultural and natural heritages needs to be recognized by both large and small scale institutions such as governments, development organizations, and non-governmental organizations.

- Governments should embrace and support such protection of landscapes and use them as models for sustainable management for the countryside.

- Funds for agriculture and economic development in these areas should carry with them a conservation objective.

- There should be an exchange of information and experiences about such protected landscapes, and such protection should be encouraged nationally and internationally.

Table 6. Conclusions about protected landscapes. Foster 1988

Making it Work

> In modern usage, we generally regard landscape as a geographical whole. Its topography, vegetation, the effects of human influence and economic exploitation are felt to be a single, limited unit. ... If we keep this definition, both natural and cultural phenomena must be included in the concept, as must the flow of matter and ideas that have influenced, and continue to influence, the landscape. Landscape must therefore be defined as the result of the interplay between man, society and nature (Sporrong 1995 p. 14).

Congruent with the definition above, a landscape must be regarded as a dynamic and encompassing entity. Study of a landscape is more than just a study of the natural environment. It must also be a study of society and society's interaction with the environment. Its analysis must take several factors into account.

Natural conditions play a very large and influential part in the formation of a landscape. Topographical variations and differences between soils create ecological zones and determine whether an area is cultivable. They determine the use of the land and are decisive in the spatial organization of settlements. Hydrological features, in

addition to influencing landscapes, often determine how lands are settled and exploited. Settlements in river valleys, situated very near the stream flows, differ from settlements on open plains, situated on slopes where wells are in the range of ground water. Vegetation is perhaps the greatest determinant to the character of a landscape. Plants are crucial elements in the process of soil formation. Depending on climatic conditions, plant succession provides the foundation for ecosystems, often incorporating the influence of humans through agriculture and grazing (Sporrong 1995).

Since humans have long exploited the land, their activities have shaped and continue to shape the characteristics of the landscape. Human proximity to natural resources has effected the quantity and character of that resource, and, in turn, may induce other changes. Technological capabilities, of course, have greatly determined the extent to which the land could be exploited. Demographics and socioeconomic dynamics have also been determinants of the demands placed upon resources. Judgments of how to use a landscape were based on ownership or power to control the land. Decisions might be made by an individual for individualistic purposes or made by a council or governing body for common and public interests. All of these create a lasting effect on the landscape, an effect that can be considered, based on the definition stated earlier, as part of the landscape (Sporrong 1995).

The dynamic balance between humans and the land, of course, continues today. Use of the land continues to be based primarily on economic rationalization. The struggle for preservation is often balanced between the individual's interest to exploit a resource and the society's wish to shelter it. Political decisions, such as where funds are places for research and development or what allowance for pollution will be maintained, can have

lasting and detrimental effects upon the landscape. However, administrative involvement also plays a role in the restriction of harmful activities by individuals and industry. Values expressed through legislation and planning are key factors in the protection of natural areas.

Just as variation increases with distance for flora and fauna, so it is also with culture and regional identities. Landscapes evolve based on the ideas, values, and decisions of the generations of people that have lived upon it. Therefore, landscape becomes an articulation of the regional identity; preservation of culture then becomes a motivational force in the efforts for preservation of the landscape. Since any region is but one piece of the landscape mosaic, its relevance increases on an international scale as it expresses a characteristic of the national identity. Establishing measures of protection becomes essential for preservation of the landscape and, thus, the regional identity (Sporrong 1995).

The establishment of protected areas, the deciding of land tenures, the legislating of land use, and the positioning of boundaries are all human cultural concepts. Creation of a protected area does not suddenly alter the nature of an area or construct a barrier between it and adjacent lands. Nor does it end established human relationships, such as cultural or economic ties, with that land. Protected area management not only must consider the resources within its boundaries; it should also consider the physical, social, and economic connections with the surrounding region, guaranteeing sound, inclusive, and effective management of the landscape (Garratt 1984). Since physical and human linkages occur across space, explorations into these relationships must take into account the varieties of scale involved (Hershberg 1995, Lewan 1995, Zigrai & Drgona 1995).

Challenges to protected areas abound. Often there is a weak national constituency as protected areas are seldom fully appreciated and insufficient support is given to management. Because the establishment of protection for an area often requires restricted use of the landscape by local people, conflicts with these people can arise. Environmental agencies are often weak components in a governmental structure and they may receive low priority when faced with opposition from other governmental agencies. Insufficient management, due to competition with other interests and due to lack of inclusion of socioeconomic concerns, and insufficient funding are also challenges to the successful protection of landscapes (McNeely 1995).

But, as always, consensus on the use of land can be a difficult to achieve. The demands of modern society often comes in conflict with the needs of more traditional societies due, primarily, to quests for the use of resources. The need for integrated land management plans is becoming apparent across the world. For example, the establishment of national parks and sanctuaries in India to protect wildlife and wildlife habitat has encroached on the traditional land use practices of local inhabitants. Such activities include animal grazing and collection of forest produce, but national park or sanctuary status forbids these practices within park boundaries. Resulting conflicts have spurred officials at both the local and national levels to reconsider policies of conservation in light of human rights (Kothari, Suri, & Singh 1995).

Residents within the boundaries of Machalilla National Park in Ecuador hold a negative attitude toward the park due to the lack of their participation in the park's creation. Their perception that resource-use restrictions outweigh any benefits from the park's establishment has resulted in conflicts with park staff. The incorporation of

community involvement, environmental education, and development of economic alternatives are called upon to attain the goal of conserving biological diversity (Fiallo & Jacobson 1995). Ten principles (Table 7) for the successful establishment and management of protected area is suggested by McNeely (1995).

1). Provide benefits to local people. 2). Meet local needs. 3). Plan holistically. 4). Plan protected areas as a system. 5). Define objectives for management. 6). Plan site management individually, with linkages to the system 7). Manage adaptively. 8). Foster scientific research, 9). Form networks of supporting institutions. 10). Build public support.

Table 7. Principles for establishing and managing protected areas. McNeely 1995

The ecological health of an area, especially one that gets a great deal of visitation, requires a great deal of monitoring and management. Distribution, conservation significance, and rarity of both flora and fauna are factors that must be considered. The area manager should be informed on the relevant migration habitats of species and the value of vegetation for erosion control. Potential soil productivity, significance of geological features, and hydrological qualities and needs must be taken into consideration. Finally, the scenic quality is also essential both for tourism draw as well as aesthetic appeal.

While controversy can erupt over issues of land use, the establishment of a protected area can lead to the development of a community (Furze, et al. 1996). The direct

involvement of locals can be achieved in several ways. Working with the press is a very good way to reach a large group of people. However, the message must start from a point that already interests them, and it must make an impact. A flamboyant and lively personality is very helpful. The use of "information officers" and a "press day" can be used to convince the media that the public has an interest in the environment and wants to remain informed about it. This information process can be carried out on a more local scale by such practices as establishing local park bulletins or erecting exhibitions (Garratt 1984).

Local organizations such as mountain rescue teams, trail construction and maintenance crews, tour providing cooperatives, and local expert advice committees are some additional methods that can involve the local population with the establishment and management of the protected area. Nearby businesses can be contracted to make needed signs or construct roads and buildings. Grants can go to local business for reconstruction projects, and farmers can receive subsidies for altering harmful or unsightly land use. Provision of campsites and accommodations can provide economic income for locals. In a cooperative spirit, park employees can assist locals when needed. Housing associations can take measures to keep housing affordable for established residents. For continued maintenance, a link needs to be established between the local people, the protected area, and the visitors. Visits are an opportunity to learn about the local customs as well as the local natural beauty. But these qualities need to be expressed to the guests (Burrell 1986).

According to the World Conservation Strategy, the integrated planning approach permits all parties to discuss and discern the issues involved. With such an atmosphere,

the amount of trust and cooperation increases, and compromises are more easily reached. Establishing the role of the protected area in a region provides a framework for conservation development goals and for conflict resolution. Compensation for people who lose out in land productivity can also included under this framework. Therein lies the value of regional planning.

Regional planning of this sort requires active community consultation and public participation. Locals often carry a fear or mistrust of the idea of "protected area" or "park" and trust needs to be nurtured by the conservation manager. The educated and the wealthy tend to be favored by formal participation formats, as legal costs tend to be a significant deterrent to general participation in the planning process. Rather than simply reacting to proposed plans, local inhabitants should be allowed to contribute to the planning. There are a variety of methods for gaining public participation (Munro 1995).

Informal consultation, although requiring time and diplomacy, recognizes local knowledge. Developing trust through informal, friendly discussion and exchange of ideas is usually more effective in achieving conservation goals than legal battles. The selection of committees by the local population is very effective. Advisory committees allow integration between the park manager and local populations (Lusigi 1995). Management committees are the ultimate in public participation, but there is also the possibility of getting bogged down in management trivia.

New development models are continuously evolving to address the specific needs of individual locations and to develop links between agencies of varying scales. For example, the Peak District National Park in England pursued an Integrated Rural Development plan in which locals could qualify for a development grant after having

demonstrated initiative and effort in organizing and completing conservation projects. Such projects included constructing or maintaining a particular type of fencing, cultivating and maintaining herb rich meadows, and assisting in the resurgence of original species. The Integrated Rural Development scheme involved three principles: individuality, involvement, and interdependence (Tourism and Recreation Research Unit 1981). The Haut-Jura Parc Naturel of France developed its own scheme to keep skiers off of ecologically sensitive areas. This included the construction of facilities and trail signs to quietly encourage visitors to complete their activities in less sensitive and "sacrificed" lands (Burrell 1986).

Integrated regional planning is called for, and planning for a protected area should take place within the broader framework of the regional objective. This, of course, will vary with the laws and customs of varying countries. If no formal planning system exists, the area manager may have to do it informally by establishing contact with all agencies so that each understands the linkages that need to be addressed in the planning.

Features required for an effective system are ...

> definition of the extent and boundaries of the planning region in logical geographical, ecological or human terms; a system for collecting, storing and retrieving relevant and structured information; a system for analyzing and inter-relating the various categories of information ...; an ability to define various planning options and to assess their consequences; systems for full cooperation and input from all relevant disciplines and organizations; systems for meaningful and effective public participation and consequent definition of realistic and acceptable regional planning objectives as a consistent framework for more detailed sectoral planning (Garratt 1984, p. 66).

The manager must also take into account the proximity of large urban centers and the demand for recreation space and water supply that they might require.

Several techniques that can be used to establish a balanced integration of conservation and development. Controlled buffer zones allow for limited levels of use while not imposing the strict limitations of the protected area or the more liberal land uses of the general region. Conservation on private land can occur by three means (Table 8).

1) Control by regulations such as direct restriction of land use by law or zoning structures set up as part of the regional planning strategy. These types of regulations are usually justified as necessary for promotion of the public good. 2) Negotiated agreements such as the purchase of development rights or easement rights. The owner undertakes to limit the use of his land by entering in to a legally binding contract with the local or state authority. 3) Voluntary actions by the owner. The resource manager can provide advice or help with special projects to protect the natural system.

Table 8. Establishing conservation on private lands. Garratt 1984

Legislation to create protected areas can cause problems. The mere presence of a protected area imposed from a central government can arouse mistrust and opposition in local populations. Procedures laid down in law become inflexible and are open to challenge only through the legal system. It is preferable that legislation provide means and opportunities to implement agreements on an integrated and balanced approach to land use. There are various types of provisions that can be well addressed through legislation (Table 9).

5) provision for negotiated agreements (covenants, leases, purchase of development rights, etc.); 6) controls on air and water pollution; compensation rights for land owners; 7) controls on water use; 8) provision for multiple use or partly protected areas; 9) floral and fauna protection; and 10) protection of customary rights

Table 9. Legislative provisions for environmental protection. Garratt 1984

Effective protection of landscapes is dependent, then, on a consideration of the common good as well as the needs of local peoples. Such considerations need to be displayed by the institutions responsible for environmental protection. Protection of the environment needs to be part of the legal framework and needs to be integrated into economic decision making.

CHAPTER III.

METHODOLOGY

Overview

Any activity involving the cooperation of many people is often complex - especially if this activity affects an economic structure. The contest for valuable resources can pit neighbor against neighbor, nation against nation. Social, economical, and technical inequities ensure continued advantage of one group over another. The rich plunder, and the powerless must endure. The larger the scale and the higher the number of participants, the greater is the complexity. But as national societies, and the world at large, have begun to realize and admit that polluting activities do not remain localized, a shift toward greener industries and the conservation of resources has occurred.

A key strategy for protection of the environmental system is the establishment of protected areas. The degree of restrictions applied to each is dependent on its history and current level of settlement, the uniqueness of its natural characteristics and natural inhabitants, and the environmental policy of its national government. The affluent as well as the impecunious can reap the benefits of protection. Parks provide opportunities for recreation, education, and inspiration. They serve as storehouses of biological and genetic diversity and as means of protecting watersheds, thus reducing the risk of

catastrophe and economic hardship. They stave off encroachment of development, allowing cultures to continue in their traditional means of livelihood.

Creating a functional protected area system requires multilevel cooperation. Of key importance is the cooperation and support of the local people. Potential economic loss of local peoples due to the establishment of protection of the landscape must be addressed, and the most suitable form of protection status should be implemented.

This study examines two protected areas, Häckeberga Naturvårdsområde (south Sweden) and Buffalo National River (central United States). Both sites lie within highly developed nations, and both sights share an international designation as *Protected Landscapes/Seascapes*. This designation is applied to those protected areas that have evolved due to the interaction of humans and nature and continue to support economic activities. What these two sites do not share is the same national designation, the same degree and history of settlement, nor the same size of protected area or natural features.

The objective of this study is to determine if these sites satisfy the international description as *Protected Landscapes/Seascapes* and to explore the amount of multilevel cooperation involved in each case. The purpose of such an investigation is to contribute to the body of literature on conservation efforts two case studies put in the context of multilevel cooperation. It is hoped that such case discussions will contribute to the knowledge base of protected area managers or environmental policy makers. Understanding the difficulties faced by one location with a particular set of obstacles – natural, social, political, and economical – can assist another location in their pursuit of similar types of area protection.

Research Methodology

This study is an inquiry into the social dimensions associated with protected areas, more particularly with protected landscapes, and will, therefore, utilize social science methodologies. Knowledge gained through such investigation is invariably knowledge gained about people and their relationships with each other and with nature.

> As humans, our relationship to the natural world is by definition a social one. The ways we see nature and the ways we use nature are products of both how societies are organized and how we, as members of society, see nature's value (however value is defined). In other words, our relationship to nature is socially constructed and socially patterned (Furze, De Lacy, & Birckhead 1996).

This study, then, is an exploration into the social characteristics of two regions, and their subsequent nations, as expressed through these two protected landscapes.

The research questions posed for this study are as follows:

What are the means utilized by Häckeberga Naturvårdsområde and the Buffalo National River in achieving functionality of these protected landscapes? (Functionality is to be understood as the capacity to qualify for the international classification as *Protected Landscape/Seascape* and to achieve the goals for protection and utilization of the sites.) How do they fit into the international and the respective national management objectives? What are the reasons for any variations in these mechanisms and practices between the two sites? What role do they play in the goal of sustainability for these developed nations? Certain expectations will accompany this investigation and will serve in the comparison of the two sites:

1). While all levels of institutions are involved in the establishment of these protected landscapes, their successful functionality is the result of localized efforts.

2). The two sites (and their accompanying institutions) display a nearly equivalent amount of inter-level cooperation in the implementation of protected status.

3). Both sites will qualify for their international classification of *Protected Landscape/Seascape*, but the degree to which this is done is dependent on the various physical and cultural activities that have played a role in the respective areas.

To address these research questions the methodology utilized for this study is qualitative in nature. Qualitative research is concerned with understanding and explaining human behavior and assumes that reality is dynamic and negotiable (Minichiello, Arone, Timewell, & Alexander 1990). These methods will utilize a strategy of triangulation, the focusing in upon a particular question from various viewpoints (Brewer & Hunter 1989). The techniques applied involve archival information and semi-standardized interviews. Questions in these interviews were directed toward the history of the protected areas and the amount of individual and local cooperation involved in the establishment and continued maintenance of the study sites.

Data Collection

This inquiry involves the use of secondary and primary resources. The secondary resources are comprised of area descriptions, historical accounts, and discussions of national environmental policies. Primary resources include official management plans for the two study sights, interviews with knowledgeable officials, and on-site visits.

Information on the international classification of protected areas, as well as information about the national area protection systems of Sweden and the United States, were gathered from the World Conservation Monitoring Centre (1998) and The World Conservation Union (1994). Information into the histories of the two protected landscapes were derived from historical and descriptive works (Bass 1991, Compton 1992, Englesson 1981, Ingemansson & Kask ?, Kappler 1904, Pitcaithley 1987, Rafferty

1980, Sporrong 1995, Sundström 1979). Information concerning the natural features and administration and management of the two protected landscapes was collected through direct solicitation of the requisite administrative bodies (Englesson 1981, Länsstyrelsen 1982, Länsstyrelsen 1987, Länsstyrelsen 1989, National Park Service 1963, National Park Service 1975, National Park Service 1977, National Park Service 1985, National Park Service 1987).

Semi-structured interviews were arranged with administrative officials and individuals who have had extended experience with their respective protected landscape and who have been instrumental in the establishment and maintenance of these protected landscapes. Nils Englesson (of the Tekniska Förvaltningen Lunds, Park och Naturkontoret, Lund Sweden), John Bear, and Lars Knutsson (of the Naturvårdsfunktionen at Länsstyrelsen I Skåne län, Malmö, Sweden) were most helpful with my inquiries about Häckeberga Nature Conservation Area. David Mott (of the National Park Service, Harrison, Arkansas USA) and Ken Smith (author and long time supporter of the Buffalo National River) provided their assistance with my questions about the Buffalo National River. A series of inquiries were made as to the establishment of the respective protected landscapes, the involvement of the protected landscape in regional conservation plans or policies, and the types of compensation are agreements made with local inhabitants of the protected landscapes.

Each topic was approached with open-ended questions, and the information supplied was recorded with content, rather than verbatim quotes, in mind. The dynamics between the interviewees and myself were as between a knowledgeable informant and an unknowledgeable investigator. In the questioning process, every effort was made to

remain unbiased in the phrasing, and every effort was made to solicit factual, rather than biased, responses. In regards to questions about conflicts or disputes that had arose during the establishment phase of the protected areas or with continuing management policies, some bias was displayed by the informants who, after all, are representatives of the conservation bodies involved in these two protected landscapes. Attempts were made to gain an interview with the landholder of the protected landscape in Sweden, but proved to be an unsuccessful venture. Due to this lack of response from the landholder in Häckeberga and to the much greater number of landholders in the Buffalo National River, I did not pursue interviews with local inhabitants in this second site. In reporting information about the local inhabitants of the two protected landscapes, displays of bias or opinions from the informants were excluded. While this investigation does deal with the social aspects of these protected landscapes, it was not a representative survey of attitudes about the protected areas. Every effort was made to keep the exploration centered upon the reasons for establishment of protected for the two areas and of the type of multilevel cooperation involved in these establishments and continues maintenance. These interviews were then followed by on site visits designed to gain better perspective into the natural and cultural characteristics of the two protected landscapes.

The collection of data for Häckeberga Naturvårdsområde occurred during the early summer of 1997. I was able to obtain copies of area descriptions and historical accounts from the local libraries and return with them to the United States where they were graciously translated into English by Dr. Bjorn Martin, agronomy professor at Oklahoma State University. I was able to conduct interviews with local officials in Sweden who have been instrumental in the establishment and management of the area and who

provided me with official management plans for the area, which were also translated by Dr. Martin. An on-site visit allowed me to see the features described during my interviews and to gain a better understanding of how this protected area was being utilized.

Through solicitation of the United States National Park Service, I was able to gain copies of the management plans for Buffalo National River. Area descriptions and historical accounts were readily available at the university library, and an interview was conducted with an individual who is well acquainted with the river and its struggle to achieve protection and who is currently active in its continued planning and management. On-site visits to the Buffalo National River during the fall of 1997 and the Spring of 1998 allowed me to witness the ways in which the park was being utilized.

Topics of Focus During Analysis

During comparison of the two protected areas, focus was directed toward those topics that were pertinent to the task at hand – assessing the functionality of these protected landscapes and the degree to which social processes have affected that outcome. Those topics include national schemes for area protection; natural, cultural, and historical characteristics of the study sites; establishment of protection status; management of the study sites; and utilization of the study sites as *Protected landscapes/Seascapes*.

National Schemes for Area Protection

Obtained from the World Conservation Monitoring Centre (World Conservation Monitoring Centre 1998), such information is vital for discerning variant approaches that

Sweden and the United States take toward landscape protection. Inclusion of such information in the discussion is a prerequisite for the discussion of multilevel cooperation. Each site is subject to its respective national agenda. Understanding the national agendas for environmental and landscape protection provides a context within multilevel cooperative efforts can be examined.

Natural, Cultural, and Historical Characteristics of the Study Sites

Variation in these features, since they are the items sought to be preserved, will play a key role in the approaches taken toward protection of these areas. For example, the size of an area receiving protection may determine the number of interested parties that are involved in the agreement policy. The habitat needs of a protected species will determine the type of continued use of the area. Continued economic activity in the *protected landscape* would be dependent on available markets or the ability of an administering agent to provide compensation for lost revenue.

Establishment of Protection Status

The purpose for establishment can reveal the values that are placed upon this landscape. The features existing within the area will determine these values. The amount of ease or unease in the establishment of the protected area can be a good indicator of the amount of multilevel cooperation. The type and number of actors involved in the establishment can show which groups place a value on this protected area and to what degree this interest is asserted.

Management of the Study Sites

Discussion of this topic should further reveal the amount of multilevel cooperation in establishment of protection status, but it will also disclose the degree of delegation of responsibilities. An area managed by an agent of the federal government may indicate that there is a lesser degree of local support for this protected area. But it may also be that the actions of the agent are reflective of the wishes of the local population. Creating a balance between support for cultural and natural features may be difficult to achieve, and an imbalance may indicate a preference or bias by the management agency for one of the features.

Utilization of the Study Sites as **Protected Landscapes/Seascapes**

The degree of utilization of the protected landscapes will indicate the types of value placed on the area by locals as well as visitors. For example, if recreation is the dominant activity, this might be due to either the preference of the people or to the suitability of the area to a particular activity. The amount of activities directed toward education might be due to the type of management body or the amount of land that is privately owned. The size and features of the area as well as its proximity to populated areas may affect this utilization.

CHAPTER IV.

SWEDEN AND HÄCKEBERGA NATURVÅRDSOMRÅDE

National Area Protection

In 1909 Sweden passed The Protection of Nature Act, making it the first European country to enact legislation on national parks (World Conservation Monitoring Centre 1998c). This act provided for the establishment and protection of national parks and other significant sites such as geological features and individual trees. Seven national parks were established that same year, including Stora Sjofallet, which is listed by the WCMC as a *Protected Landscape/Seascape* due to its development and use for hydroelectric power.

Fifty-five years later, in 1964, Sweden passed the Nature Conservation Act to prescribe ways in which national parks, nature reserves, and natural monuments were to be established and managed. The number of national parks and other protected areas increased dramatically. The preamble to this act announced that all people in Sweden have the right, with certain limitations, to roam across the landscape, including through protected areas and the property of others. This *allemansratten*, every man's right, carries with it responsibilities and guardianship. A 1974 amendment to this act provided for the establishment of Nature Conservation Areas parks. During this same year, the Beech Forest Law was passed, placing tight restrictions and management on beech

forests. In 1987 the Natural Resources Act was established, providing some protection to large areas of the country and attempting to create a balance between different interests (World Conservation Monitoring Centre 1998c).

In comparison with the United States, Sweden has a fairly simple means of administration and designation for their protected areas. National parks are individual sites that must be approved by separate Acts of Parliament in a lengthy administration process. The degree of protection is, to some degree, dependent on the by-laws drawn up for each site. National parks can only be designated on land owned by the Crown. Although regulations governing their use may vary, there are usually strict controls preventing forest felling, hunting, trapping, damage to soil or other vegetation and camping and lighting fires outside authorized sites. In the seven national parks established in Lapland, the Lapps are specifically exempt from certain park regulations. They are able to use parks as ranges for their reindeer, to shoot certain species, and to fish in the lakes and rivers.

Nature reserves are selected by county administration for a variety of reasons: scientific interests, outdoor recreation, or aesthetic beauty. Here natural history interests might simply be considered as a bonus. They may be established on Crown land or privately owned land. The reason for the designation must be stated and restrictions deemed necessary for protection. Typically, a private landowner is forbidden from erecting buildings, using pesticides, or hunting. The public is usually reminded, by the posting of signs, of relevant restrictions in the national legislation. Many nature reserves are managed according to a non-interference policy, but some are actively managed to maintain their scientific interest. Before designation, the county administrations must

consult with persons and organizations whose interests may be affected by the proposals. Owners may be compensated for the restrictions placed on the land, and occasionally county administrations may agree to purchase the land from the owner, although it is normally rare to use the methods of compulsory purchase.

Natural monuments are usually small or very small sites. Many are individual trees, or isolated boulders such as glacial erratics. In recent years more effort has been put into preservation of areas rather than single objects, so the number of sites in this category is not expanding.

Wildlife sanctuaries provide refuge for birds and seals. Humans are not allowed to enter at certain times of the year. Birds and other animals are afforded protection against egg collecting, shooting, hunting, photography or other disturbances. There is no general strategy covering the overall policy of wildlife sanctuary designation. They are not normally subject to special management regimes, nor are they specifically protected against exploitation or land use dangers. This category includes bird sanctuaries.

A nature conservation area (landscape management area) is a category introduced in the 1974 amendment to the Nature Conservation Act. It provides a less restrictive form of protection. Various management measures can be carried out in agreement with the landowner, as regulations do not significantly hinder current land use activities. However, no financial compensation is available to the landowners (World Conservation Monitoring Centre 1998c).

Established in 1967, the Swedish National Environmental Protection Agency (SNEPA) is the central administrative body, administers the Nature Conservation Fund, and in consultation with the county administrators, is responsible for all protected areas in

Sweden. It issues regulations concerning national parks and state owned protected areas - which are managed by the Forest Service - and supervises research and surveys in protected areas. The SNEPA provides state grants for land use and resource management and also is responsible for providing information about protected areas (World Conservation Monitoring Centre 1998c).

Länsstyrelse (county administrators), of which there are twenty-four across Sweden, are responsible, at the county level, for establishing and managing nature reserves, nature conservation areas, natural monuments, and wildlife sanctuaries in consultation with the SNEPA. They are responsible for biological surveys and the preparation of management plans and information about protected areas. The county forest board is responsible for privately owned protected areas, while municipalities are responsible for municipally owned protected areas. Responsibility for protected areas is being delegated to smaller administrative levels, but are subordinate to the regulations and policies of the SNEPA.

Svenska Natursyddsföreningen (The Swedish Society for Nature Conservation) is Sweden's largest private conservation organization. It owns a number of sites, and is responsible for the management of a number of others, most of which are classified as nature reserves (World Conservation Monitoring Centre 1998c).

According to the WCMC, Sweden contains 214 protected areas comprising 6.78% of its 440,940 square kilometers of land area (World Conservation Monitoring Centre 1998d). Twenty-six of theses sites fall under the UN classification of *Protected Landscape/Seascape.* They are of assorted size, and total 290,711 hectares. They were established predominantly between the years 1968 and 1990. With the exception of Stora Sjofellet National Park (established 1909) and Sandsjöbacka Nature Reserve, these

Protected Landscapes are classified in Sweden as nature conservation areas. Approximately 4% of the protected areas in Sweden that fit this international categorization, then, fall under direct federal responsibility while the surplus are under direct county responsibility (The World Conservation Union 1994).

Skåne

> "Where on earth am I now?" he wondered.
>
> He saw nothing but the check upon check. Some were broad and ran crosswise, and some were long and narrow – everywhere there were corners and straight lines. Nothing was round, and nothing was crooked.
>
> "What is this big checked cloth I'm looking down on?" said the boy to himself without expecting anyone to answer him.
>
> But instantly, the wild geese who flew around him called out: "Fields and meadows. Fields and meadows."
>
> Then he understood that the big, checked cloth he was traveling over was the flat land of Skåne; and he began to realize why it looked so checked and multi-coloured. He recognized the bright green checks first; they were rye fields that had been sown in the autumn and had remained green under the winter snows. The yellowish-grey checks were stubble-fields – where grain had grown the summer before. The brownish ones were old clover-meadows; and the black ones, empty beet fields or ploughed-up fallow pastures. The brown checks with the yellow edges were, undoubtedly beech-forest; for in these you'll find the big trees which grow on the heart of the forest – naked in winter; while the little beeches, which grow along the borders, keep their dry yellowed leaves way into the spring. There were also dark checks with grey centres; these were the blackening straw roofs of large farms built in a square round the stone-paved farmyards. And then there were the checks green in the middle with brown borders: these were the orchards, where the grass was already turning green, although the trees and bushes around it were still in their naked brown bark.
>
> The boy could not help laughing when he saw how checked everything looked (Lagerlöf 1906, as quoted in Sporrong 1995 p. 44).

During the ice-ages, large amounts of till were deposited in Skåne making the topography alternate between high and low lying grounds. The ridges are wooded, less fertile, and have experienced a history of colonization different from the plains. Fertile

soils have made the plains easy to cultivate, and this use has led to its current landscape characteristics.

Skåne shares a cultural landscape heritage similar to that of Denmark and Northern Germany (figure 2). A form of land division known as *bolskifte* partitioned arable land into small strips and no farmer's holdings were gathered together. His strips would be distributed over village land according to a three-field cultivation system, a succession of spring sowing, autumn sowing, and a fallow period. By the beginning of the second millennium, settlements were concentrated around isolated places in the landscape, on low lying ground, preferably near water. Villages consisted of ten to fifty farm buildings clustered together with the exception of windmills and fishing huts scattered about.

Inadequate supplies of natural fertilizer meant that the outlying lands stayed fallow for longer periods or were utilized for growing grains that had a low demand on the soil and low yields, such as buckwheat. In the transitional zones between plains and higher ground there were many estates where tenant farming took place and sometimes irrigation systems were constructed. The pattern of settlement over Skåne resembled a spider web, villages acting as nodes, connected by roads.

Mechanization and land restructuring in the nineteenth century altered the face of Skåne, threatening the variation in the landscape. Almost all the wetlands were drained, and many of the marshes, meandering streams, and water meadows were eliminated. The following illustrations display the changes that took place as wetlands were drained to make way for agricultural use (figure 3). Notice the name change of the study site.

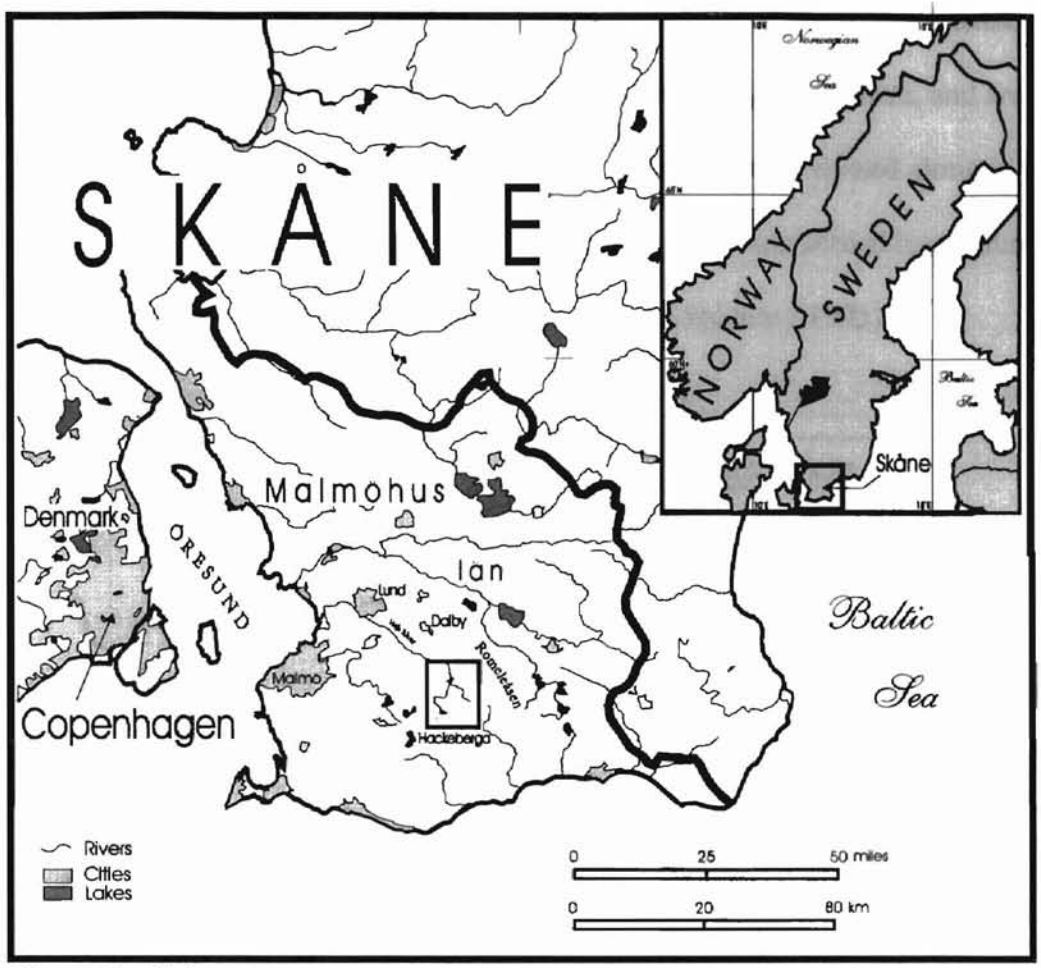


Figure 2. Skåne.

When agriculture became industrial and personalized, farms moved out of the villages and into the surrounding countryside. *Enskift*, a land reform that was introduced into Skåne in the nineteenth century, split the estates into smaller units. Tenant farming disappeared, and larger farms were formed and began exporting produce. A more complex network of roads and rails were built, resulting in trading centers. A large

number of obstructions to commercial agriculture, such as cairns and mounds, small water courses, fenced in tracts, ditches and willow-lined banks, have been cleared away.

But despite the changes that have occurred, many traditional features still exist. Village cores are still present, though not necessarily inhabited by farmers, and are often used as summer homes by urban dwellers, the homes having been passed along in the family. Old grazing and meadow lands around streams are being turned into nature reserves to protect this cultural and ecological heritage (Sporrong 1995).

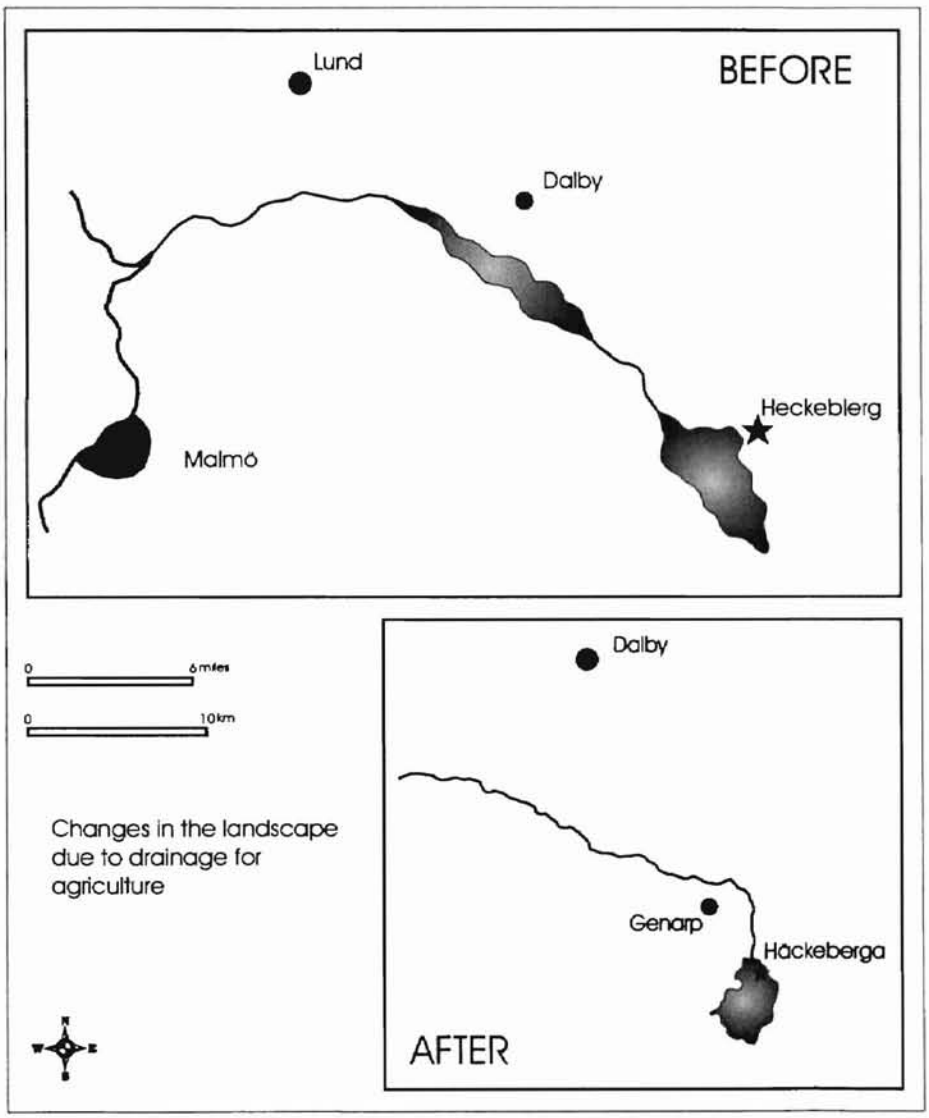


Figure 3. Changes due to wetland drainage. Sundström 1979

Häckeberga Naturvårdsområde

Belonging to a ridge line known as Romeleåsen situated in the south-western part of Skåne, Häckebergaområdet (Häckeberga area) is a particularly hilly landscape within this undulating plain of southern Sweden (Figure 4). Häckeberga lies within the administrative boundaries of Malmöhus län(province), Lunds Kommun(county), and Genarp Socken (parish) and is owned by the Rurik Tham family. At near center of this protected landscape lies the lake, Häckebergasjön. Other lakes and marshes are present within the protected area, but Häckebergasjön, headwaters to Höje å (Höje river) remains the dominant body of water. Striving to protect the natural and cultural remnants of the past, this Nature Conservation Area, internationally classified as a Protected Landscape, was established with little fuss.

History

For many years Skåne belonged to Denmark and underwent the same style of settlement and agriculture, as described earlier. The original name of Häckeberga was Hickebjerrig. It is believed that Genarp, first mentioned in 1313, was founded in the twelfth century. It was located "gent" (pronounced 'yent' and meaning across) from Höje å as viewed from Gödelöv, a town about two centuries older. A castle, Häckeberga slott, was built on an island in Häckebergasjön in 1530 by Holger Gregersen Ulfstrand. Ulfstrand referred to himself as "the little king of Skåne," a situation that was not tolerated by the Danish King. Ulfstrand was forced to travel to Copenhagen where he was beheaded, his head was tied to his horse, and it was sent back to Häckerberga.

During this time, road connections to Sweden were poor. But when Sweden took control of Skåne in 1658, King Charles XI wanted to improve the road system and make it easier to move troops south to defend Swedish territory. Ystad was the endpoint of the roads, providing quick access to a port city where movement could be extended across the Baltic Sea. One section of this road lead from Lund, followed the Höje å, and passed through Genarp and near Häckeberga where it was called Gängesvägen, "gänge" meaning a low area suitable for camping (Figure 4). This road system became very useful during the Nordic war that broke out in 1700, and Charles XII was thankful for his father's forethought. Häckeberga slott was destroyed by the Danes in 1678 to be later rebuilt and given its current appearance in 1873-75 (Ingemansson & Kask).

Until the middle of the nineteenth century, the Romeleåsen was utilized by various towns within the vicinity of the ridge. It was shared property, and farmers collected lumber and firewood and animals were free to graze there. Early into the turn of the century, a water mill was in operation at the only significant waterfall along the Höje å, just south of Genarp. A small canal was built to channel the water, the water level being raised by a dam at the end of the canal (Ingemansson & Kask). By 1820 the forest of Risen, also just south of Genarp, was already over-harvested and it was turned into a land of juniper shrub, wild roses, sparse trees, and grass or brush. However, most of the Häckeberga area remained wooded and had only smaller areas of grazed meadows, farmer's fields, and marshes, most likely due to its estate status. But by the middle of the century this situation was changing as well. Increasing population, industrialization of agriculture, and land reform and changes in settlement patterns meant that even greater area was being cleared for farmland (Englesson 1981).

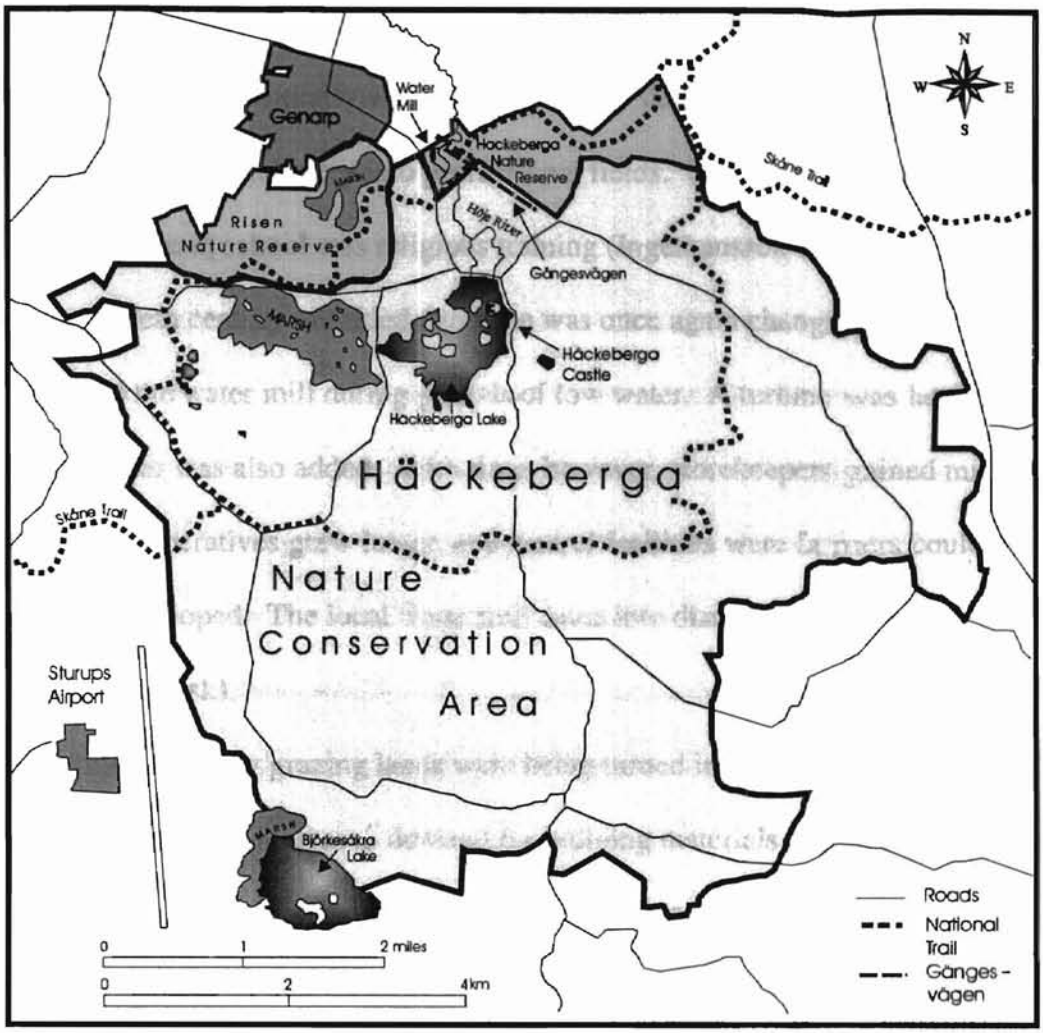


Figure 4. Häckeberga Nature Conservation Area. Länsstyrelsen 1989

> For long, Häckeberga was a place of its own. People were born, went to school, married, worked an entire life, and finally were buried without having set foot outside Genarp's parish. Happiness and sorrow, work and leisure – everything found room within this piece of earth, just several square miles large at the edge of the Romeleåsen (Ingemansson & Kask p. 25).

Mandatory education for children in Sweden became the responsibility of the parishes around the middle of the nineteenth century. But the hard times of this period, including a crop failure in 1868, meant that the opportunities for education for Genarp parish's youth were very slim in that the children were greatly required by households to

assist with daily operations. Only half the amount of the number of children that were supposed to be in school actually were in attendance. Very few were able to better their situation through study and entry into professional fields. Considered to be of the greatest importance in school was religious training (Ingemansson & Kask).

As the twentieth century unfolded, land use was once again changing. A windmill was used to aid the water mill during periods of low water. A turbine was later installed and a diesel motor was also added. With time, however, storekeepers gained milling abilities, farm cooperatives grew larger, and central facilities were farmers could deliver their harvests developed. The local water mill came into disuse in the 1930s (Ingemansson & Kask).

During this time many grazing lands were being turned into forest plantations of fir trees, probably due to an increased demand for building materials and paper products. A hurricane struck southern Sweden in October 1967 having a large impact on the vegetation, forest, and land development. Due to increased industrial agriculture and changes in the means of economic livelihood for area residents, the area was quickly covered again in fir tree plantations, and the beech trees and cultivated and grazing lands became even scarcer (Englesson 1981).

Establishment of Protection Status

Due partly to the application of Häckeberga Estate for permission to plant 150 ha. of forest on farm and pasture land, legislation was finalized on December 16, 1980 to make a large part of Häckeberga a natural preservation area. This legislation meant that current land uses could not be altered with out permission from the Malmöhus län government.

An inventory of the natural environment of Häckeberga was written the following year (Englesson 1981), and its need and potential for protected status was assessed and guidelines were suggested.

The natural value placed upon Häckeberga is for its older stands of trees, its picturesque grazing lands, and its preserved stone walls. Changes taking place to this landscape, either through natural or human cause, were considered detrimental to the character of the landscape. Natural causes included the successful reproduction and takeover of fir trees, turning the forest toward a monoculture. Human interference with the area's character included more efficient agriculture and forestry (Englesson 1981).

Häckeberga's importance to nature and outdoor life made such changes as were occurring unacceptable. The area's environmental protection legislation is congruent with the county and environmental protection organizations, and protection of the area has received the support of public opinion. It was recommended that legislation for protection be based on agriculture and forestry, and that such action should create an economic benefit to the landowner.

Areas where it is desirable to maintain old forests and where such maintenance is not possible through forestry operation should be given reserve status. For pastures that have seen little recent grazing and where forest is beginning to take over due to this lack of grazing, such practices should be reinstated. Any new plantations that are deemed necessary should be deciduous.

The draining of bogs, marshes, and pools has lowered the water table and have put at jeopardy the flora that is dependent on such collections of water. Such draining is to be

discontinued. To facilitate outdoor recreation in the area, the simple matter of installing new, and of improving existing parking lots is to be arranged (Englesson 1981).

On October 4, 1982, a decision was made by the Malöhus län, Naturvårdsenheten (Environmental Protection Unit) to declare Häckeberga a Nature Conservation Area in accordance with article 19 of the Environmental Protection Law (Länsstyrelsen 1982). This declaration was in direct agreement with the Romele Ridge and Lake Landscape Committee. Additional guidelines were drawn up, and in 1987 a final plan was agreed upon by the following parties: The National Environmental Protection Agency, Lund County Commission, Malmöhus Province, Department of Forestry, Street Maintenance Department in Malmöhus Province, Romele Ridge and Lake Landscape Committee, and the landowner. The establishment and continued maintenance of this protected landscape is the result of various actors (table 10) with various degrees of importance (Table 16).

Natural Characteristics

This area is one of the most scarcely populated in Malmöhus län (Malmö Province). Construction is limited to the Genarp vicinity, and permission for such activity is required from the land commission and from the forest protection commission. A proposed site to the east of the city is of concern to the Risen Nature Reserve, which abuts the Häckeberga nature conservation area. There are a small number of cottages, horse farms, and small horticultural spots, all of which are widely scattered. Häckeberga slott, now owned and operated by Wilhelm Tham, serves not only as an attraction to the area, but as a gourmet restaurant, serving up wild game and offering fine wines (N. Englesson, personal communication June 10, 1997). Much of the farming and grazing areas were

converted to forest plantation, and, with the high quality of these forests lands, more were planned. These were commonly managed for profit. However, economic considerations are giving way to environmental concerns. Forest vegetation is classified as damp deciduous forest, "noble" deciduous forest (ash, elm, beech, oak) (Figure 5), and pine and other coniferous forest. These forests are then separated into classes according to age. Also present in the area are open lands consisting of cultivated fields, dry meadows, fresh meadows, heath, and also marshes and bogs (figure 6). The drying up of several of the open marshes, due to forest draining, has allowed aeration of the peat moss, and nettles, now a common plant in this area, are taking over large portions.

Governmental Organizations
National Level - Swedish National Environmental Protection Agency, responsible for national protected area classification scheme, provides funding to smaller administrative bodies, established law for protection of noble deciduous trees Regional Level - Länsstyrelsen Malmöhus län, sees to establishment and administration of protected landscape, negotiates agreements with landowner - Forest Protection Commission of Skåne, sees to management of the natural Areas Local Level - Genarp parish, no official responsibilities
Non-governmental Organizations
National Level - Swedish Society for Nature Conservation, not involved in this site Regional Level - none Local Level - Romele Ridge and Lake Landscape Commission, involved in decision making process for establishment and maintenance of area
Individual Actors
- Landowner, Rurik Tham family, owns entirety of the protected landscape, involved in decision making process, severely restricted in ability to make changes to landscape, receives economic benefit form clearing of fir trees and from renting out portions of land. - Land Tenants, limited in the type of use that can be done to land parcels

Table 10. Actors involved in the establishment and care of Häckeberga.

There is no longer any gravel mining in operation, but old pits are utilized for grazing and as a cross-country track for motorcycles. The harvesting of peat moss, an important activity at the beginning of this century, has created partly open water ways in the bogs and marshes. As drainage is rather poor in this area, the marshes serve as flood control for the Höje å drainage basin.

Two nature reserves (Figure 4.) are adjacent to the Häckeberga conservation area: Risen and Häckeberga. Risen Nature Reserve, established August 24, 1972 and presently consisting (enlarged through later land purchases) of 230 hectares, lies just south of Genarp. Its landscape is representative of that which existed 100 years ago in the outlying areas of Romeleåsen, and its value is biological, social, cultural-historical, and landscape aesthetics. The area is varied with forests, heath vegetation, and marshes that have escaped drainage and contain a variety of flora and fauna.

Häckeberga Nature Reserve, established April 22, 1976, is found east and slightly north of the castle. Gulches eroded by streams make it geologically interesting, and a variety of woods, fir plantations, and meadows represent a cultural and natural heritage (Englesson 1981).

Cultural Characteristics

The cultural characteristics of the area include both contemporary and historical elements. Contemporary features include the hiking trails and the equestrian farms. Many of these cultural features are still actively contributing to the economic life of this

location. The castle is historical and also serves as a contemporary means of economic gain (Figure 7). Historical remnants, such as the old mill, the various stone walls and foundations, and the gängesvägen add much to the atmosphere of the area but are simply remnants of the past serving as historical displays (Figure 8). Economic support for such remnants is dependent upon available national funds for such things.

Management

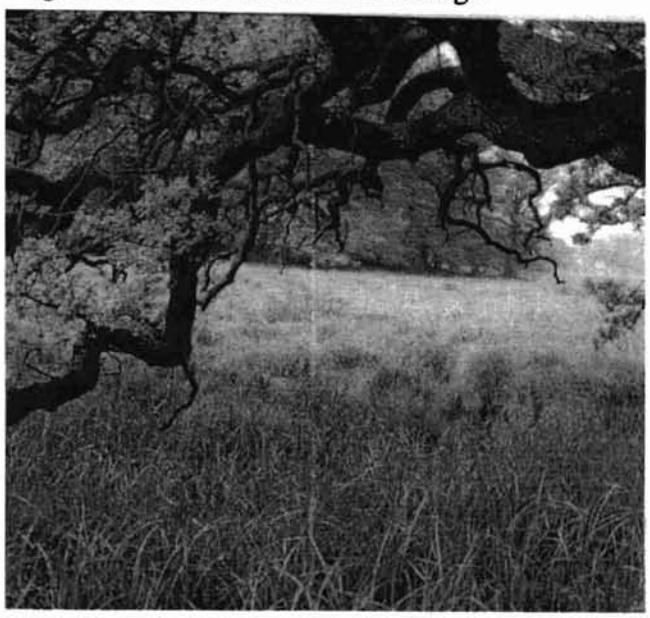
The 1982 document (Länsstyrelsen 1982) gave a series of directions regarding certain parties and land uses. Until gaining permission from the provincial administration, the landowner is prohibited from certain activities: erecting new buildings except for agricultural or forestry needs, putting up aerial lines, significantly altering the topography of the landscape, undertaking new drainage projects or causing the lake to be lowered more than 0.3 meters, converting any currently open land to forest, or cutting deciduous forests other than for maintenance. The landowner, as well as any proprietor of right to the land, must allow maintenance for protection of the natural environment and for facilities for public use such as parking areas and walking trails. The public must also carry responsibility for conservation and is prohibited from disturbing live plants, camping more than one night in a location without permission, or other disturbing or damaging activities.

The primary purpose of the administration of the area is to coordinate the agriculture and forestry so that the nature will remain rich in variation and the cultural landscape will also house abundant wildlife. There should remain many opportunities for recreation within the area accomplished through the maintenance of trails and parking lots. Plans

for changes are to be agreed upon by the county administration and the landowner. The protected area is to be marked according to national standards. The natural areas are to be managed by the Forest Protection Commission of Skåne (Länsstyrelsen 1982).

Figure 5. Deciduous forest in winter. Länsstyrelsen 1989

Figure 6. Marshland in Häckeberga.



Länsstyrelsen 1989

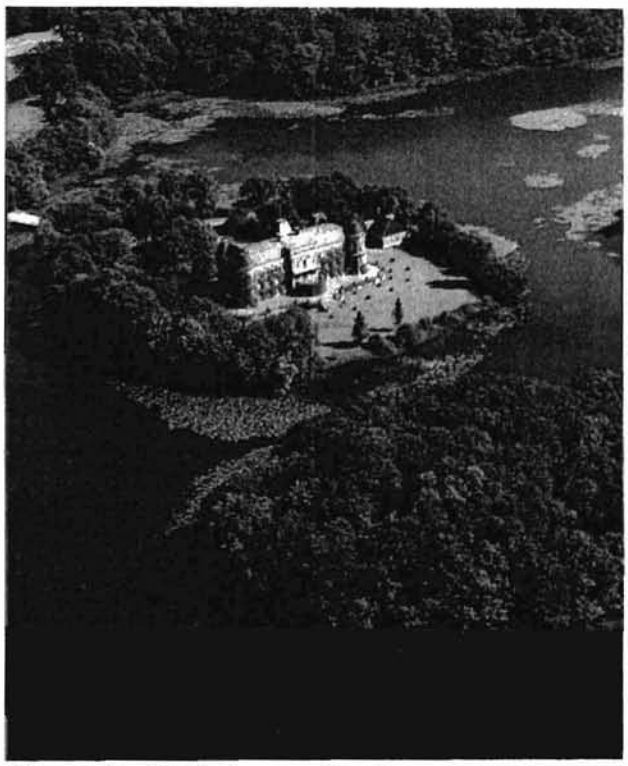


Figure 7. Häckeberga Castle. Länsstyrelsen 1989

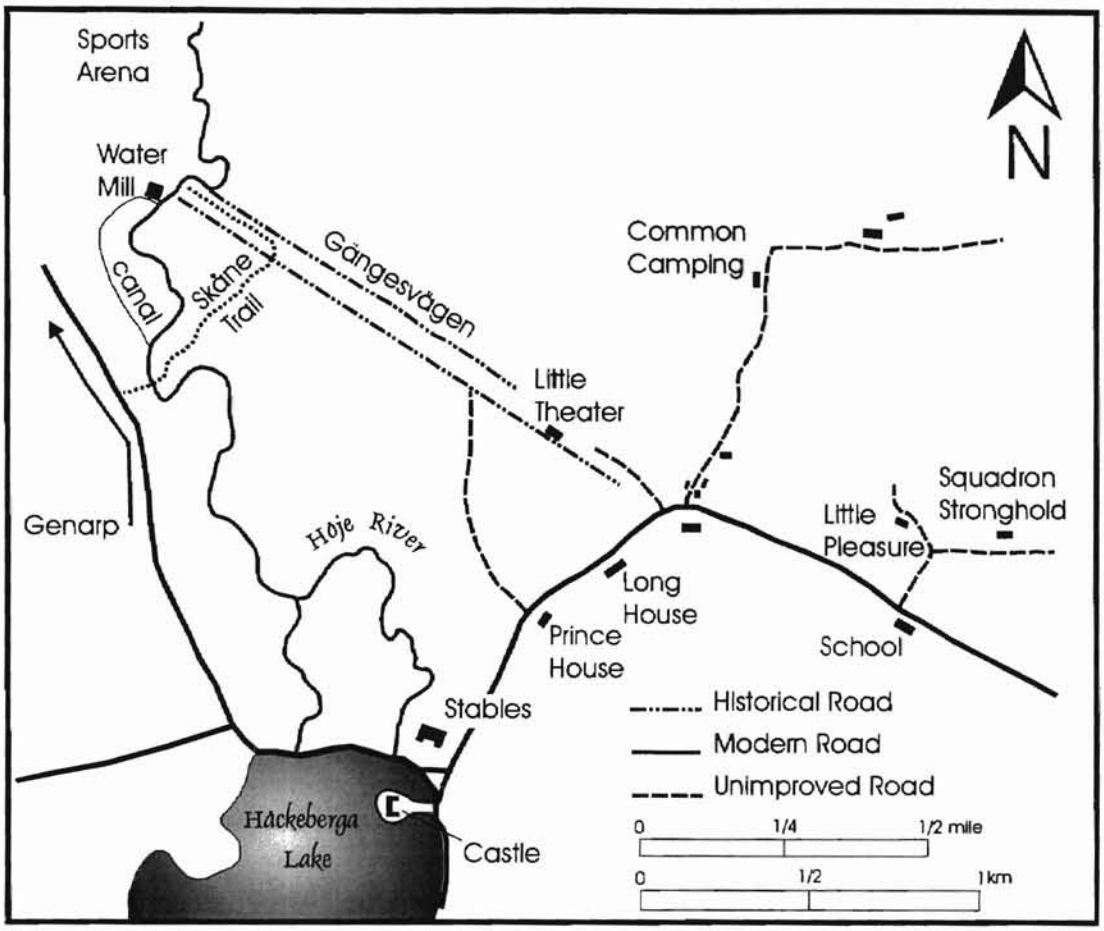


Figure 8. Cultural Features at Häckeberga. Ingemansson & Kask

The 1987 document further discussed protection of the area. Guidelines for the maintenance and health of the deciduous forests and limitations on harvesting are expressed. The goal for the management of the forests is twofold: to promote an environment sustainable for variable plants and animals as well as for human use and to restore the dominance of the deciduous forests, as according to the noble deciduous forest law. To this end, fir trees that are downed, such as through storms, are to be replaced with 'noble' leaf trees. Farmlands are to be used for small-scale cultivation, grazing or hay cutting, primarily for preservation of a cultural activity and for scenic value. Open lands are to remain as they are – open. Certain activities, such as thinning and fencing,

that facilitate continued land use can be performed as *beredskapsarbeten*: work paid for by the government during periods of high unemployment (Länsstyrelsen 1987, J. Bear & L. Knutsson, personal communication June 15, 1997). Water level of the lakes and marshes is to be regulated and controlled, according to a schedule, to the benefit of the shoreline forest and the many birds that inhabit and pass through the area.

Outdoor activity is to be promoted while maintaining the integrity of the scenic and natural environment. Trails are to be maintained so as to channel foot traffic, and the historical landmarks are to be maintained by either fencing or restoration.

Costs of maintaining Häckeberga naturvårdsområde falls principally upon the county administration, which receives its funding from the SNEPA. Special projects, such as restoration of historical sites, are to be carried out when funds are available for such purposes. Labor involved in maintenance is to be provided through *beredskaps*, founds for which are also supplied by the national government. Timber brought down due to maintenance of the protected area may be sold off and the profits delivered to the landowner (J. Bear &L. Knutson, personal communication June 25, 1997). Responsibilities of the landowner lie with the continual inspection of constructions and the control of the water level in the lake. Continued maintenance of the protected area is beneficial to the landowner in two additional ways. In addition to its historical significance of the castle is now utilized as a gourmet restaurant, and the scenic quality serves as an additional draw to this establishment. Maintaining the habitat of the deer and elk population is also beneficial in that the landowner charges a substantial hunting fee netting him a considerable amount of income (J. Bear & L. Knutson, personal communication June 25, 1997).

Qualification as Protected Landscape

"The environmental value (of Häckeberga) is tied to current nature and landscape character and to remnants of older landscape, for example aged stands of trees, preserved stone walls, and grazed lands of old appearance" (Englesson 1981, p. 41). The aesthetic value is readily apparent upon sight of the area and further verified by the poems written about the area (Ingemansson & Kask). In an area of the country dominated by large scale agriculture, this pocket of preserved vegetation, wildlife, wetlands, and history is an area of distinct character (Table 11).

Utilization of Häckeberga Naturvårdsområde is achieved in several ways. It is privately owned, and the owner gains economically from its establishment. No financial expenditure on his part is required for the management or upkeep of the area. Save for the castle and lands leased to small farmers and stables, maintenance of structures, roads, and historical sites is the responsibility of the administrative government. Money derived from felling fir trees that are to be replaced with beech trees goes to the landowner. Maintenance of the habitat for deer and elk is also economically beneficial to the landowner as he might sell hunting permits. The beauty of the area, of course, is a draw for people. This may be considered an intrusion by the landowner, but the draw of the natural setting also brings attention to the castle that gains revenue by serving as a restaurant.

Opportunities for recreation are perhaps the most prominent way in which the general public makes use of the area. The southern part of the national hiking trail skirts the area, allowing hikers to camp nearby and to experience the area with its large number of bird species and historical sites. For those less athletic, roads of various qualities pass

Protected Landscape/Seascape Attributes
Distinct character due to interaction between people and nature over time – - Open fields for grazing, existing mostly in nature reserves and in the northern part of study site near the castle and other structures - Draining and harvesting peat from the bogs Contains significant aesthetic, ecological, and cultural value - Undulating landscape and scenic views - Threatened beech tree forest, floral and faunal richness - Castle and other historic remnants relevant to the region and nation
Management Goals
Landscape Conservation - Ban on further wetlands draining, cutting of beech trees, or building unsightly structures - Maintaining open pastures - Replacement of fir tree forests with beech trees Recreation - Hiking trails and camp sites - Distributed parking sites - Hunting, fishing, and nature viewing - Interpretive signs to educate the visitor

Table 11. *Protected Landscape/Seascape* Qualification Chart, Häckeberga.

throughout the area and small parking areas and short trails are available. Signs reveal the boundaries of the nature conservation area and the nature reserves and also serve as interpretive devices for the public. The castle is an attraction, also offering fine meals, and the grounds are available for those who might enjoy hunting.

Summary

The process for conservation in Sweden, largely centralized, seems to facilitate the smooth operation of the objectives and activities of the nature conservation area. Häckeberga Naturvårdsområde is a case in point. Compliance by the individual landholder to national legislation and requirements, support of the surrounding community for the protected area, and the delegation of administrative and management

responsibilities for small protected areas to the county administration demonstrates a general support, by at least a large percentage of the population, toward environmental protection and conservation. The actions and agreements that have occurred in conjunction with this protected landscape are not representative of all protected landscapes in the nation. While national and provincial laws ensure universal adherence to protected area standards and regulations, establishment and agreements are made at the local level. In that regard, this case study, with its localized circumstances, only portrays one of many instances in the conservation effort.

Along with liberal attitudes, Swedes are considered to be very oriented toward nature. The image of the Scandinavian, except in their capitals, is that of the countryman, few families being more than a couple generations removed from the farm. They carry a "wholehearted support for the protection of the environment, not merely against pollution but often against any form of development, on the score that an unspoilt Nature has aesthetic and even moral values which transcend mere practical consideration" (Derry 1979 pp. 400-401).

But as the following quote implies, such a simplistic interpretation of the Swedish attitude toward nature should not be blindly applied. A shift of greater appreciation for 'wilderness' and of less infatuation with the rural countryside may be occurring. Such a shift and its effect on the type of environmental legislation and protected area establishments are subjects worthy of further investigation.

> With the emergence – with unparalleled rapidity and freedom from conflict – of the Swedish industrial state, a special national ideology developed, founded on simplicity, authenticity and naturalness. The industrial morality of asceticism and performance now found its expression in "recreation." Naturalist and tourists ventured out into "natural nature," an anathema to the farming society. The lure was untamed rivers, solitary moors, mountains and the salt-sprayed rocks of the Swedish

West Coast, the countryside of the Swedish Tourist Association: fresh, clean, agriculturally useless, and therefore unsullied (Nittve 1988).

CHAPTER V.

THE UNITED STATES AND THE BUFFALO NATIONAL RIVER

National Area Protection

The many designations of protected areas and the melange of management bodies reflects the administrative complexity at the federal level in the United States. Area protection in America began with a state reservation in Massachusetts in 1641 (World Conservation Monitoring Center 1998c). Georgia also established a reserve in 1825, but area protection really began in June of 1864 when President Abraham Lincoln signed a law granting the Yosemite Valley and the Mariposa Grove of Giant Sequoias to California to be held for "public use, resort, and recreation ... inalienable for all time" (World Conservation Monitoring Center 1998c, p.2). On March of 1872 Yellowstone was declared a national park, widely accepted as the first national park in the world. The Antiquities Act of 1906 granted power to the president to declare sites of historic or scientific value as monuments. The act favored cultural and historical value, but President Theodore Roosevelt interpreted the criteria for scientific value rather broadly and invoked his executive powers to create national monuments for nature conservation. These beginnings have evolved into a complex collection of area protection systems.

The National Park System, run by the National Park Service established in 1916, manages three broad types of areas: natural, historical, and recreational. Designations

under natural sites include national parks, national monuments, national reserves, and national preserves. Designations under recreation sites include national recreation areas, national seashores, national lakeshores, national scenic trails, national rivers, and national wild and scenic rivers. Designations for historic sites include national historic sites, national historic parks, and national battlefields (World Conservation Monitoring Center 1998c).

The Wilderness Act of 1964 established criteria for the inclusion of lands into the National Wilderness Preservation System, lands to be added enlarged only through individual acts of Congress. Four federal agencies take management responsibility for management of wilderness areas: National Park Service, Forest Service, Fish and Wildlife Service, and Bureau of Land Management. Wilderness areas are defined as "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" (World Conservation Monitoring Centre 1998c, p. 17). Administration of these lands is to be for the enjoyment of people in a manner that leaves them unimpaired for future enjoyment as a wilderness area, to preserve the wilderness character, and for gathering and disseminating information about them.

Based on legislative acts passed in 1891, 1897, and 1974 the National Forest System was established. The greatest amount of area under protection in the U.S. falls within this system, and the lands are managed according to two national acts. The Multiple Use-Sustained Yield Act of 1960 generated the establishment and administration of forests for outdoor recreation, range, timber, and watershed, wildlife and fish protection. The National Forest Management Act of 1976 provided for the management of forest and range land ecosystems at varying degrees of intensity. The forest service also manages

areas of other designation: wilderness areas, national recreation areas, research natural area, national wild and scenic rivers, and national monuments. In addition, the forest service manages areas of special designation: scenic areas, paleontological areas, geological areas, botanical areas, and zoological areas (World Conservation Monitoring Centre 1998c).

The National Wild and Scenic Rivers System is based on the Wild and Scenic Rivers Act of 1968. Such rivers may be more specifically designated as wild river areas, scenic river areas, or recreational river areas, and they include both federal and state lands. Wild rivers are free of impoundment, are largely accessibly only by trail, and have watersheds that are unpolluted. Scenic rivers are of a similar state but are accessible by roads. Recreational rivers are those that are easy to access and have undergone some development. They are established by acts of congress or by legislation of the states through which they flow (World Conservation Monitoring Centre 1998c).

The National Oceanic and Atmospheric Administration (NOAA) manages the National Estuarine Research Reserves Systems and the National Marine Sanctuaries. National Marine Sanctuaries give significance to marine environments that possesses qualities of conservation, recreational, ecological, historical, research, educational, or aesthetic value. The purpose of the National Estuarine Research Reserves System is to provide opportunities for long term research, education, and interpretation (World Conservation Monitoring Centre 1998c).

The National Wildlife Refuge System has four broad goals: to preserve, restore, and enhance populations of species that are becoming endangered; to perpetuate the migratory bird resource; to preserve a natural biodiversity on refuge lands; and to provide

for an understanding and appreciation of ecology and the human role in the environment and provide for recreation where this is compatible with the primary purpose of the specific refuge. The Fish and Wildlife Service manages these lands (World Conservation Monitoring Centre 1998c).

A variety of federal authorities carry responsibility for the management of protected areas. Under the National Park Service are a number of associated responsibilities: natural resources, cultural resources, operations, budget and administration, planning and development, and management systems. A variety of areas, as described above, fall under the management umbrella of the National Park Service lands (World Conservation Monitoring Centre 1998c).

The role of the United States Fish and Wildlife Service (USFWS) of the United States Department of the Interior is to conserve, protect, and enhance fish and wildlife populations and their habitats. The USFWS is responsible for the National Wildlife Refuge System. Through the implementation federal laws and acts, the USFWS is able to influence the land management strategies of other federal agencies, such as through the protection of wetlands (World Conservation Monitoring Centre 1998c).

The United States Forest Service (USFS), United States Department of Agriculture was established in 1905 and has struggled to balance the conflicting demands of production and protection of forests resources. The role of the USFS is to manage, protect, improve, and utilize the forest system. The National Oceanic and Atmospheric Administration was established in 1970 for the purpose of managing marine resources and for oceanic and atmospheric research (World Conservation Monitoring Centre 1998c).

The Bureau of Land Management (BLM) was established in 1946. The administration of their lands is for multiple uses, including forestry, mining, and grazing. The BLM is noted for its ability to reach out to local communities and gaining their participation in the planning and management of its protected areas. The Bureau of Indian Affairs (BIA) can also administer reservation lands for nature conservation. The tribes reserve management authority, but the BIA provides technical assistance with a mandate for multiple use. The Bureau of Reclamation and the Tennessee Valley Authority manage lands for watershed and water resource maintenance. Often in cooperation with federal, state, and local authorities, the Department of Defense maintains some lands for monitoring, research, protection, and restoration. Cooperative agreement with a private organization, The Nature Conservancy, was reached in 1988 (World Conservation Monitoring Centre 1998c).

The Environmental Protection Agency (EPA) was established in 1971 as an independent agency of the government. Although not responsible for the management of protected areas, the EPA has considerable influence in regards to pollution control, waste dumping, and water control which can lead to the protection of resources. In conjunction with the USFWS and the US Army Corps of Engineers, the EPA's protection applies greatly to wetland areas. Every state has its own administrative bodies for the management of protected areas, often in cooperative agreement with federal agencies such as the BLM, the EPA, and the USFS (World Conservation Monitoring Centre 1998c).

Non-Governmental Organizations (NGOs) carrying economic and political strength play a significant role in the establishment and management of protected areas in the

United States. Founded in 1951, The Nature Conservancy is pre-eminent in this regard. They have brought into protection over two million hectares of landscape, much of which has been passed along to federal or state agencies. Other citizen-run national organizations include the National Audubon Society, the Society of American Foresters, the Conservation Fund, the Land Trust Alliance, Ducks Unlimited, Trout Unlimited, the National Fish and Wildlife Foundation, and the Sierra Club (World Conservation Monitoring Centre 1998c).

According to the WCMC, the United States of America contains 1,494 protected areas making up 11.12% of its 9,372,614 square kilometers of land. The 1993 United Nations List shows there to be 1,480 protected areas (IUCN 1994), including 451 Strict Nature Reserves or Wilderness Areas (Categories Ia and Ib), 176 National Parks (Category II), 70 Natural Monuments (Category III), 394 Habitat/Species Management Areas (Category IV), and 389 Protected Landscapes/Seascapes (Category V). Of this last category, approximately 75% fall under state responsibility while the rest are under federal charge. Of this number of Protected Landscapes/Seascapes under federal control, only two are classified as National Rivers. Buffalo National River (established 1972) in Arkansas and New River Gorge (established 1978) in West Virginia (The World Conservaton Union 1994).

The Ozark Mountains

> To say that the culture of the Ozarks is changing is a truism, for there is little in the world that doesn't change. However, the rate of change and the process of change from place to place within the Ozarks has been variable, so that much that was is, much that was is gone, and the remainder, mainly imagery, never existed (Rafferty 1980, p. 4).

The term Ozarks is derived from the abbreviation of a place name by the French Americans. To make mention of the Arkansas River, or of the French post along the river, one would simply shorten their speech to *Aux-Arcs*, pronounced "ozarks." Literally this means "to the Arkansas" or "to the Arkansas post" (Rafferty 1980).

Set mostly in southern Missouri and northern Arkansas, the Ozark Mountains are physically set apart from the eastern plains of the United States by the rugged terrain of a high plateau eroded into many valleys and countless hollows by the ever flowing water (figure 9). The inhabitants are politically conservative, fundamentally religious, and mostly of rural origin. This cultural character was carried westward from the Appalachian mountains as many of the first immigrants, greatly of Scottish and Irish descent, came mainly from Tennessee and Kentucky. Because the Ozarks remained relatively isolated for many years, the economic activities, technologies, values, and beliefs came to be patterned after these first white settlers (Rafferty 1980).

Prior to white settlement, Native Americans occupied the Ozarks. The Osage Indians rested in the interior and western Ozarks, while tribes like the Illinois lived along the Mississippi River. Other tribes that resided in this area included the Caddos and the Quapaw. Means of livelihood involved agriculture and hunting, trips that often took them away from their villages for extended periods (Rafferty 1980).

By the 1700s, the Indians of the Ozarks were in regular contact with the European immigrants. Trade with the French brought superior goods into the lives of the Indians, and the introduction of the horse allowed the Osage to hunt in the plains of the west. The intensity of this contact and trade grew with the coveting of the lands by the whites. The Ozarks quickly became the dumping ground of the tribes pushed out of the East. In 1785

some Cherokee had begun to settle around the White River in northeast Arkansas Rafferty 1980).

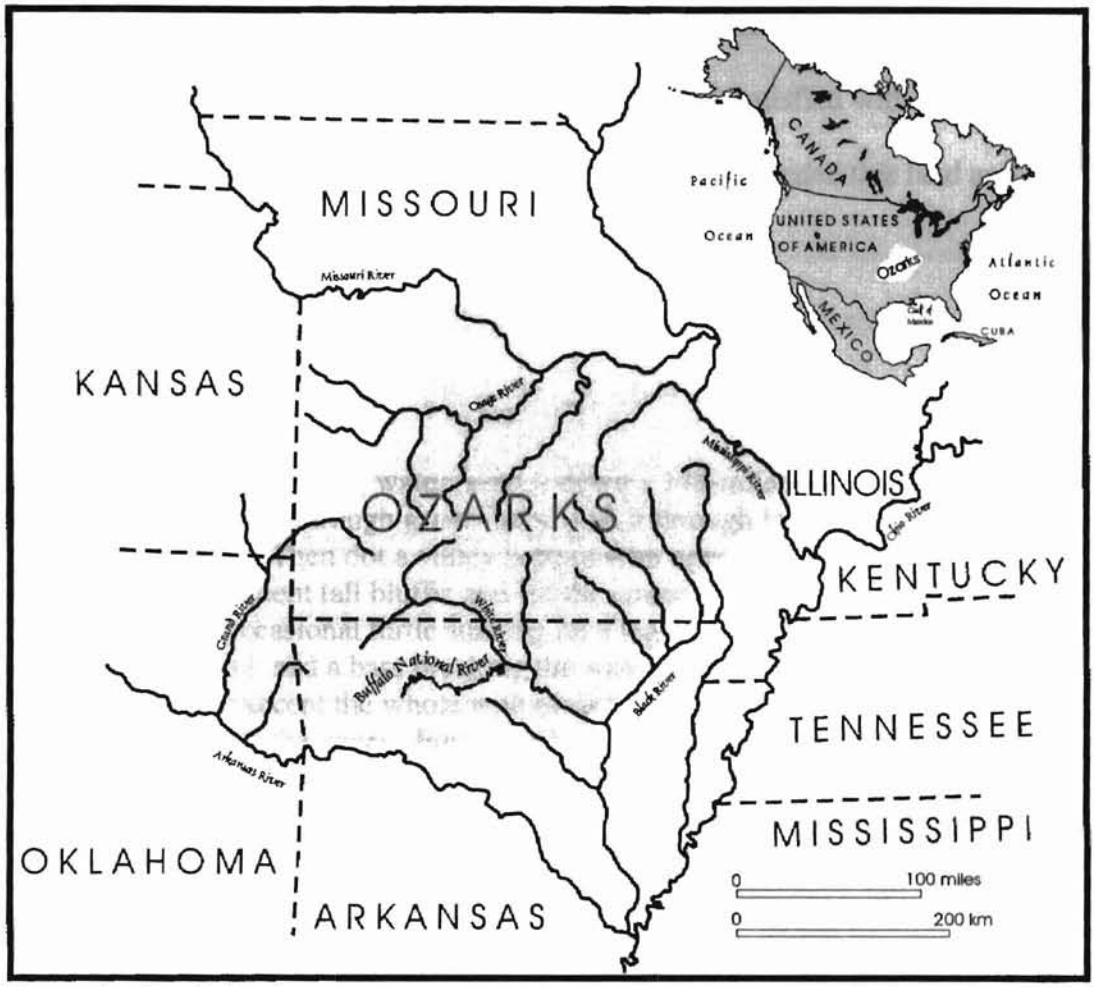


Figure 9. Ozark Region. Rafferty 1980

With the Louisiana Purchase of 1803, the Ozarks became part of American territory and even more tribes had brief residency in the area before being sent further west into Indian Territory. The Osage ceded a large portion of their lands in 1808, making room for more Cherokees, the Kickapoo, Piankashaw, Shawnee, Wea, Peoria, and Delaware. After the War of 1812, newfound emphasis was placed on Indian removal, and the Ozarks had become a refuge for even more tribes Rafferty 1980). By the mid 1820s

fragments of the eastern tribes were present, and approximately six thousand Cherokees inhabited the area of northern Arkansas. Most were settled along the banks of the Arkansas River, but a few made it into the region of the Buffalo River and maintained a village at the mouth of Spring Creek (Pitcaithley 1987). Dissatisfied with this area and with the proper payment of promised annuities, the Cherokees ceded this land and resettled in Indian Territory in 1828 (Kappler 1904).

The Buffalo National River

> Take pure, clear, flowing water: send it down a 148-mile meandering course; pour it over rapids; strain it through gravel bars; drift it through long pools; let it caress tree-covered banks. Then dot a valley bottom with open grassy meadows; punctuate the shores with frequent tall bluffs; and fill the country side with steep, wooded hills. Now interject an occasional turtle sunning on a log in the water; slide in a snake searching for a frog; add a bass breaking the water surface; and stand a heron stalking at the river edge. Accent the whole with birds warbling in the trees and insects buzzing close above the water. Finally, place yourself in a canoe drifting down the river surrounded by the peaceful and inspiring mood of these natural elements. Now you have the essence of the Buffalo National River.
>
> But on the land there is even more: caves with hidden formations and untrodden passageways; solution pits and sinks and underground waterways; tall cliffs on sidestream courses that force long waterfall leaps; ancient Indian dwelling sites; abandoned pioneer farmsteads on ridgetops hidden in regrowing forests; a pastoral scene disappearing most places – perpetuated here by residents still living off the land; a wildflower unexpected (National Park Service 1977, p. 1).

> The story of the Buffalo is essentially one of people, highland people for the most part, and how they and their way of life were affected by the Ozark Plateau, by the "outside" influences, and by their relative geological isolation. Like their counterparts in the southern Appalachians, the inhabitants of the Arkansas Ozarks lived close to the earth in an existence that was distinguished by poor and limited arable soil, by an insularity imposed by the surrounding hills, and by an independence that was necessitated by both (Pitcaithley 1987, p.vii).

Stretching across three counties in northern Arkansas, the Buffalo National River, established in 1972, is the first protected area in the US with this designation. It is

federally administered and largely federally owned, although a few bits of privately owned land still remain within the boundaries of the park (Figure 10).

History

Named for the large number of bison that once roamed this area, the Buffalo River first appeared on a map, although then referred to as the Buffaloe Fork of the White River, in 1810. This was the result of the expedition of Zebulon Pike through this area in 1806 and 1807. Although rivers served as roadways for the advancement of white settlement, the Buffalo River, due to its general shallowness, never received a great amount of traffic. Only flat boats, canoes, and rafts to reliably navigate along its course. This unreliability for travel kept the Buffalo River Valley relatively isolated and preserved many of the cultural features that are still visible today (Pitcaithley 1987).

Putting aside trappers and a small number of earlier arrivals, white settlement began along the Buffalo River in the 1830s, primarily by migrants arriving from Tennessee. Accustomed to hardships, these settlers eked out a living by farming the bottomlands with wheat, corn, cotton, potatoes, and oats and engaging in hunting and trapping. In 1830, the United States Congress passed a law that allowed those who had developed land prior to its inclusion in an administrative boundary to retain that property after such inclusion occurred. The "Squatter's Rights" law no doubt advanced the degree of settlement along the Buffalo. But the resources for subsistence living remained thin, as did the density of settlement (Pitcaithley 1987).

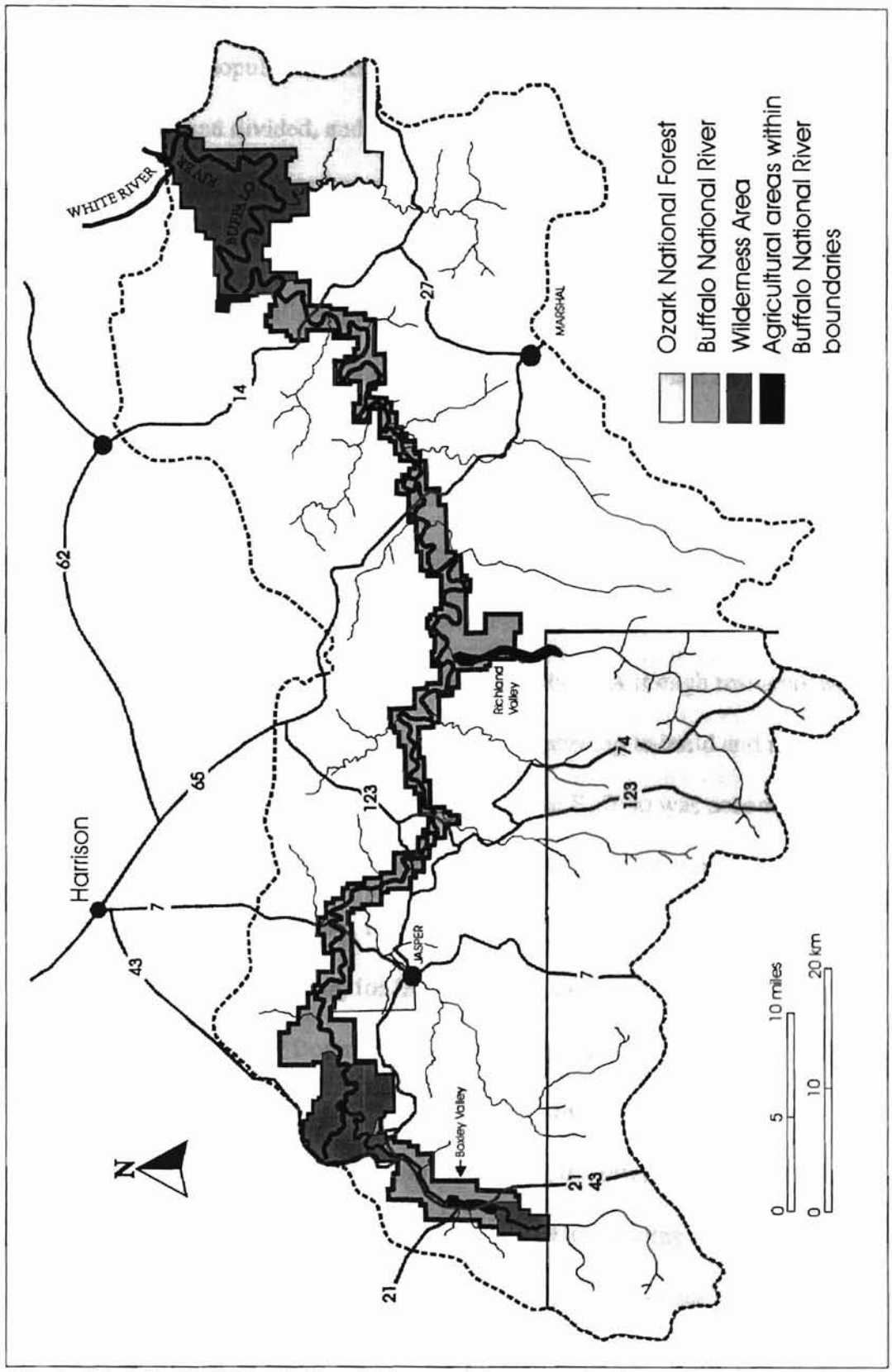


Figure 10. The Buffalo National River and its watershed. National Park Service 1977

But still there were population increases. Soon administrative boundaries were drawn, counties were added and divided, and the stress placed on the resources increased. Following the end of the Civil War in 1865, an event that turned political sympathies away from the Democratic South toward the Republican North, industrialization began to boom around the Buffalo. Mills were established to service the area and for "export", and roads, however difficult and slow to travel along, were built. But by the end of the century, logging was the most lucrative business, the cut lumber being floated down the river during periods of high water toward the White River (Pitcaithley 1987).

By the 1920s, the lumber industry was failing due to poor transportation (the water level of the Buffalo being very inconsistent and dependent on the amount of rainfall within the watershed) and poor timber management policy. Although residents were required by state law to provide some of their time in laboring to build and maintain roads, transportation remained difficult. Crossing of the Buffalo was accomplished by ferry, and was subject to the very changeable flow of the river's waters. Not until the 1930s were bridges built (Bass 1991; Pitcaithley 1987).

Like the lumber industry, mining for lead and zinc played an important role in the economics of the river valley. Boomtowns - like Rush, Gilbert, and Pindal – sprouted only to diminish along with the industry. Also like the timber business, the difficulty of transporting the ore out of the valley accompanied with the lowered value of the product made it economically inefficient to continue. By the 1930s, mining was a bust, and the economy of the valley once again was one of subsistence, an enviable position during the difficult times of the economic depression that gripped the nation (Bass 1991). In fact,

the population and the number of farms increased during this period as people returned to make their livelihood from the landscape (Pitcaithley 1987).

In 1933, President Franklin D. Roosevelt signed into law the Tennessee Valley Authority Act authorizing the government to build and operate dams along the Tennessee River and its tributaries. The public response to this was positive as it helped to control flooding, provided power through hydroelectricity, and brought much needed employment. The Flood Control Act of 1938 gave the Army Corps of Engineers the right to impound any river it deemed could benefit from a damming project. As of the 1950s, the Corps placed an eye on the Buffalo River (Bass 1991).

> Arkansas, including those who lived along the river, generally approved of the dams as a beneficial progressive undertaking. The need for flood control seemed obvious, and while the projected hydroelectric plants would have produced more power than the immediate area could absorb, their construction was considered far more positive than negative. Prior to the 1950s there was little or no opposition to the placing of dams across the river. During the latter part of that decade, however, public awareness of the beauty and grandeur the Buffalo had to offer began to mount. And opponents of plans to damn the river began to unite and propose alternatives to inundation (Pitcaithley 1987, p. 97).

The Ozark Wilderness Waterways, established in 1956 and operating out of Kansas City, Missouri, had the declared mission of protecting the rivers of the Ozarks from damming (Bass 1991). Although they had interests in protecting the Buffalo, a more local group "took-off" with the objective of protecting the river. The Ozark Society, stationed out of Fayetteville, Arkansas, began in 1962 with twenty members. But by the next year they boasted a membership of 1,000 (Bass 1991). A visit to the river by Chief Justice William Douglas, an ardent supporter of conservation brought a great deal of public attention to the plight of the river. But interests in preservation of the river

extended beyond the recreationist. The Searcy County Farmer's Association formed to save their lands that were in danger of being covered by water (Pitcaithley 1987).

After an appraisal of the river in 1963, the National Park Service supported protection of the river stating that "here lies the last opportunity for preservation of a river typical of the Arkansas Ozarks, and, indeed, the opportunity for preservation of a river considered by many to be the most outstanding free-flowing stream in the Southwest" (National Park Service 1963, p 26). The park service then proposed incorporating the river in its system. Support for the river was coming from as far away as California and from as high up as President Lyndon B. Johnson. Within the state Senator J. W. Fulbright and Governor Orval Faubus supported protection (Pitcaithley 1987).

But during this period, the majority of the local population favored development of the river, hoping the resulting lakes would drive up the property value. Proponents of the damming projects organized and in 1962 formed the Buffalo River Improvement Association (BRIA). Several hearings took place to try and resolve the issue, but still things remained at a standstill (Pitcaithley 1987).

Real opportunity for gaining protection of the river occurred in 1966 when Congressman James Trimble, a long time and ardent supporter of the damming projects, was defeated for election and replaced by John Paul Hammerschmidt. The removal of Trimble, the only unwavering supporter of the projects in congress, removed much of the momentum by the development supporters (Pitcaithley 1987).

In 1967 Hammerschmidt and Fulbright introduced a bill to have the river absorbed into the National Park System. During the congressional hearings on this matter, a group of inhabitants traveled to Washington, not to oppose keeping the river at its present state,

but to object to the intrusion of the federal government telling them what to do with their lands. The location of the nearby Ozark National Forest had already take much of their tax base, and they were concerned that the park would have similar and more devastating results (Pitcaithley 1987, Bass 1991).

Establishment of Protection Status

Despite the pleas of the landowners, the bill was passed and President Richard M. Nixon signed Public law 92-237 in 1972 establishing the Buffalo National River, to be managed by the National Park Service (United States 1972). However, the proposed size was reduced and private lands used for residency or agriculture would be allowed to remain in private hands under a use and occupancy clause (Pitcaithley 1987). The establishment and continued maintenance of this protected landscape is the result of various actors (Table 12) with various degrees of importance (Table 16).

Natural Characteristics

Over the years, the river has cut deeply through layers of sandstone, shale, dolomite, and limestone creating bluffs up to 500 feet high and carving over 100 caves. A variety of habitats, including forests, open fields, meadows, hollows, springs, creeks, and gravel bars, fall within its boundaries. Over 1,500 plant species are present, and deciduous types dominate the trees. Six species of oak and three of hickory are present in the Buffalo River watershed. The elm, red maple, sassafras, persimmon, walnut, hackberry, black gum, dogwood, redbud, and short leaf pine are also present.

Animal life is typical of that present in deciduous forests. White-tailed deer, bobcat, and coyotes are the most represented of the mammals in this area. Gone are the timber wolf, elk, and bison, after which the river is named. There are more than 250 species of

Governmental Organizations
National Level - United States Congress, created Public Law 92-237 (1972) and established Buffalo National River, signed by US President - National Park Service, carries out environmental and social impact studies, makes agreements with landowners, continues care and management of protected area, faced opposition from the US Army Corps of Engineers who favored dam development Regional Level - Arkansas State senator and governor introduced bill into congress for establishment of protection, faced opposition form other state and district representatives who favored development Local Level - no involvement in an official manner
Non-governmental Organizations
National Level - Sierra Club petitioned for protection - *Outdoor Life Magazine* published an article calling for support of the river's protection Regional Level - Ozark Wilderness Waterways, petitioned for protected of many of the Ozark's rivers including the Buffalo Ozark Society, petitioned specifically for protection of the Buffalo and serves in continued maintenance of area - Sierra Club, regional chapter, offered support and maintenance Local Level - Sierra Club, local chapters, offered support and maintenance - Searcy County Farmer's Association, petitioned against damming, strongly opposed by the Buffalo River Improvement Association (BRIA) who favored damming of the river - Boy Scouts of America, trail maintenance
Individual Actors
- Chief Justice of the Supreme Court William O. Douglas, strong proponent for protection of the river - Ken Smith, author of *The Buffalo River Country*, proponent for protection, continued activist and planner for the national river - Landowners, received compensation for land or made agreements for continued occupancy of the land

Table 12. Actors involved in the establishment and care of the Buffalo National River.

birds in the region, and migratory waterfowl are seen on the Buffalo during spring and fall migrations. The river contains a variety of freshwater fish, including the large mouth bass, walleye, catfish, bluegill, and perch. The waters are too warm to support trout in any significant number, but a limited number of gar do survive in the river (National Park Service 1975 & National Park Service 1987).

The National River is bordered at both ends by sections of the Ozark National Forest, near the headwaters and at the confluence with the White River. Within the park boundaries are three wilderness areas that were established in 1978: the Upper Buffalo Wilderness Area, the Ponca Wilderness Area, and the Lower Buffalo Wilderness Area (Figure 10).

Cultural Characteristics

Farming practices begun by early settlers is still occurring today and can be seen in the cultural landscapes of Boxley Valley, Eribie, and Richland Valley. About ten percent of the area is open fields that have been used since the area was settled. Several points in the park are listed on the National Register of Historic Places. These include an archeological site at Calf Creek and the Boxley Mill. Boxley Valley's Cultural Landscape and the Rush mining district are being nominated for the Register (National Park Service 1987). Although the Buffalo National River's history of settlement has occurred in the three areas mentioned above, Boxley Valley is the most culturally scenic and has received the most attention form the National Park Service in terms of historic preservation (D. Mott, personal communication, May 22, 1998).

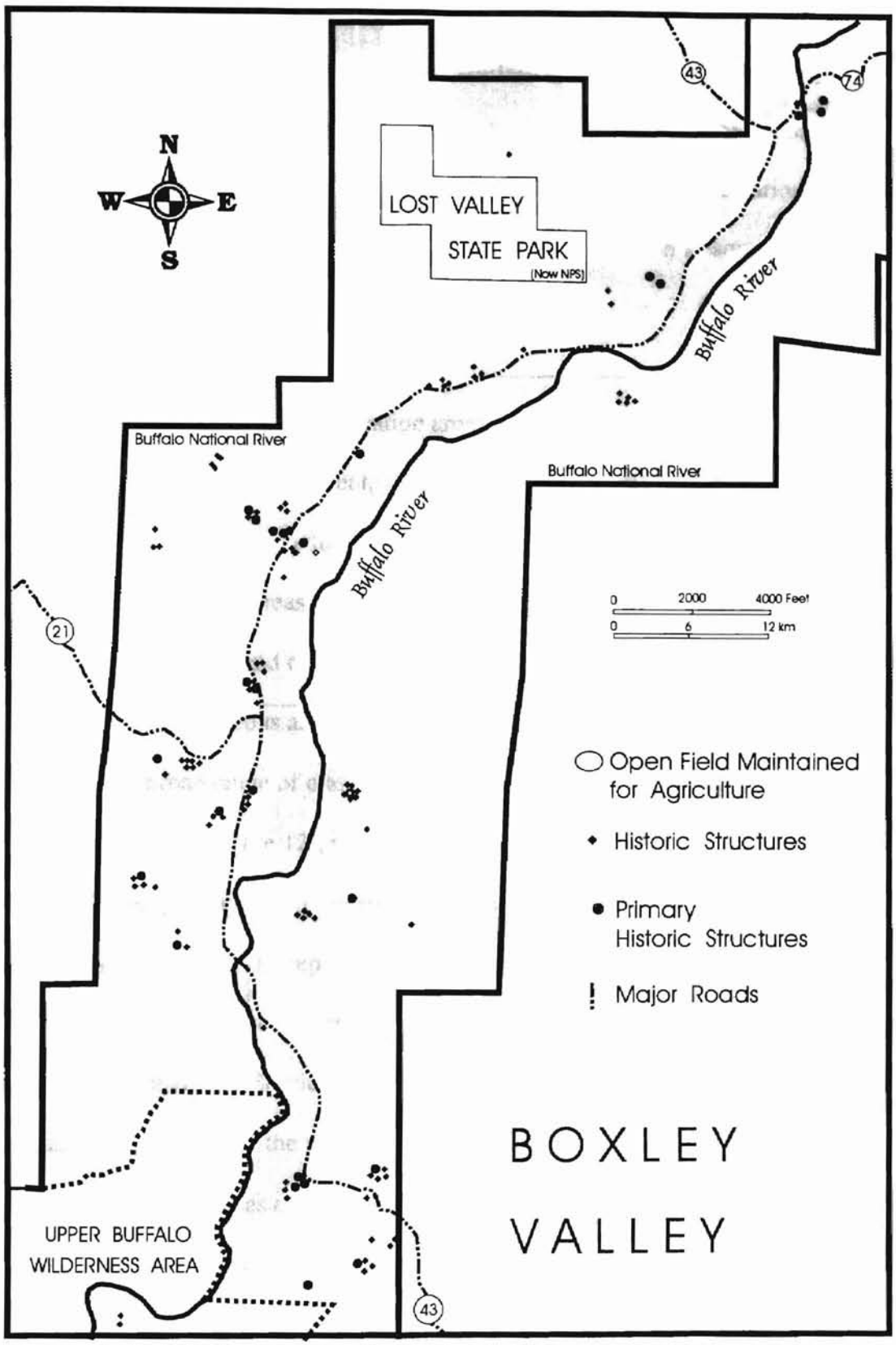


Figure 11. Buffalo National River's Boxley Valley. National Park Service 1985

Management

Being part of the National Park System, the Buffalo National River has undergone extensive survey and several management plans have been enacted. The park has applied a land classification scheme to designate the use and management for the various lands within. Of the six classifications offered by the Outdoor Recreation Resources Review Commission, five are at use at the Buffalo (Table13).

Class II – general outdoor recreation areas,
Class III – natural environment,
Class IV – outstanding natural areas,
Class V – primitive areas,
Class VI – historic and cultural areas.

Table 13. Land classifications at the Buffalo National River. National Park Service 1977

Due to this broad range of classification, visitors to the park are assured a variety of experiences – pastoral (Figure 12), primitive, recreational, and natural. Class II and Class VI areas are developed in order to receive the large amount of visitors and to offer services and interpretation. Except for the establishment and maintenance of trails, the other lands will see little or no development (National Park Service 1977).

When the National Park Service established the Buffalo National River they were able to purchase outright some of the private lands they desired. For retention of the historic aspects of the area, as well as establishment, a number of families have retained inhabitance. Arrangements were made with landowners for their inclusion and continued residence in the area (Table 14).

Conservation or Scenic Easement In this type of arrangement, ownership of the land remains in private hands, but restrictions on development of the property are placed. They may not alter the use of the land in any significant way so as to damage the quality of its present state. Landowners are compensated for this restriction on their land.

Use and Occupancy In this arrangement occupants retain the right to use and reside on the land, but the property is sold to the Park Service. Occupancy may continue for a set number of years or for the remainder of the life of the occupant. Much of Boxley Valley, an historic farming valley along seven miles of the Upper Buffalo, received this arrangement (See figure 11).

Provisional Leases In an effort to maintain the cultural characteristics of the landscape, the Park Service may lease portions of the land for specific uses. Profits derived from this use go to the occupant, but the terms of use must meet the goals of the management plan. Such uses include agriculture, hay leases, or historic leases.

Table 14. Continued occupancy arrangements in the Buffalo National River. Smith 1998

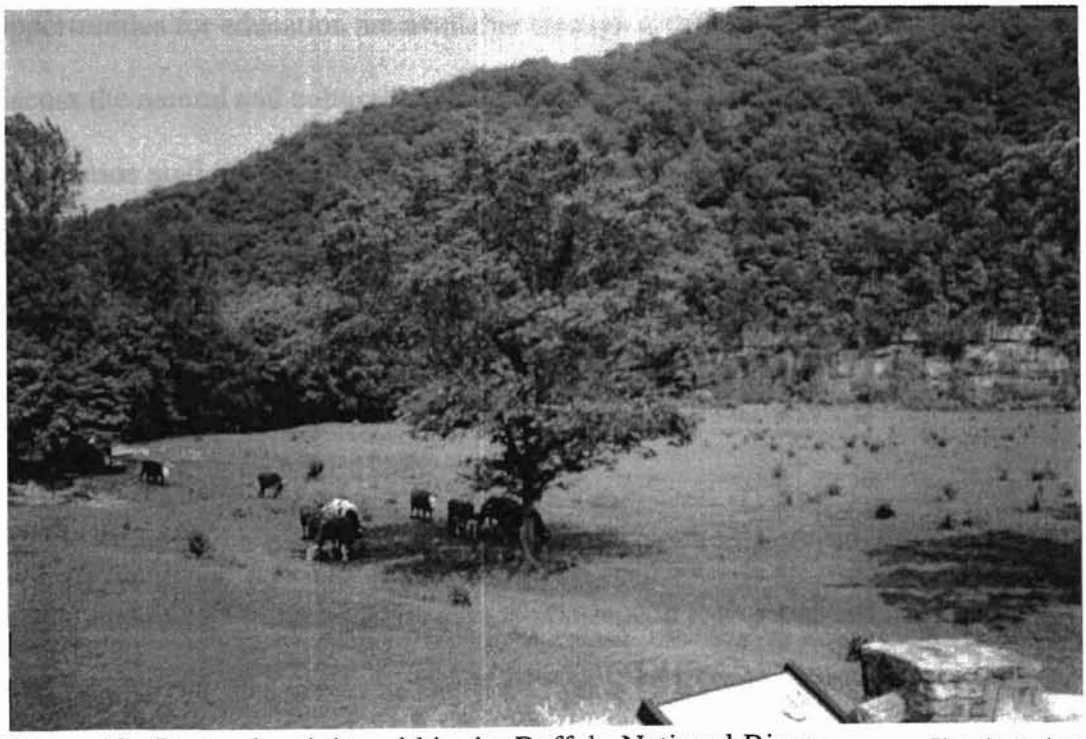


Figure 12. Pastoral activity within the Buffalo National River. Photo by Author

The National Park Service, however, is not an individual actor in the management of the park. They are responsible for studies, surveys, and decisions. But they gain a great deal of help from non-governmental organizations. Always the friend of the river, the Ozark Society has been assisting in the construction and maintenance of trails since the park's foundation. The American Hiking Society, the Student Conservation Association, and the Sierra Club have all assisted in projects over the years (Bass 1991, Smith, personal communication March 22, 1998).

Qualification as Protected Landscape

The Buffalo National River qualifies for classification as protected landscape in several ways (Table 15). The area offers many opportunities for recreation: canoeing, camping, hiking, backpacking, horseback riding, and fishing (Figures 13, 14, & 15). Opportunities for education are available through a variety of ways. Interpretive signs discuss the natural and cultural environment for the visitor. Visitor's centers and information stations offer a greater degree of interpretation. Classes from local schools are involved in a water monitoring program, and students travel to the river to take samples of the water to monitor its quality. Members of the Water Education Team (WET) take regular readings of the aquatic ecosystem (Bass 1991, Smith, personal communication March 22, 1998).

Opportunities for economic gain are minimal, especially considering the size of the park. Landowners in the park are able to continue in their means of livelihood, but alterations in this means may be limited. Taking advantage of the influx of tourists, some

Figure 13. Scenic view along the Buffalo River Photo by Author

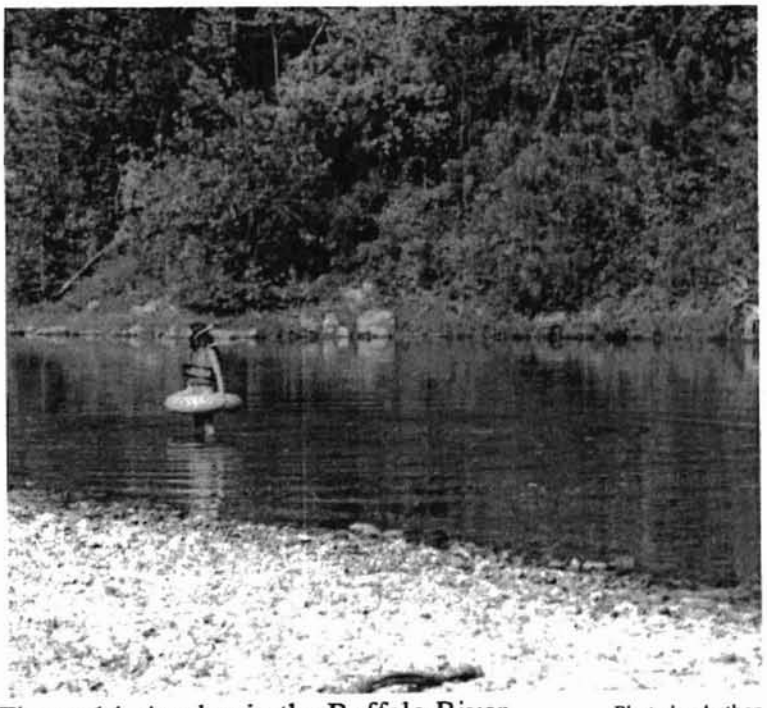


Figure 14. At play in the Buffalo River. Photo by Author

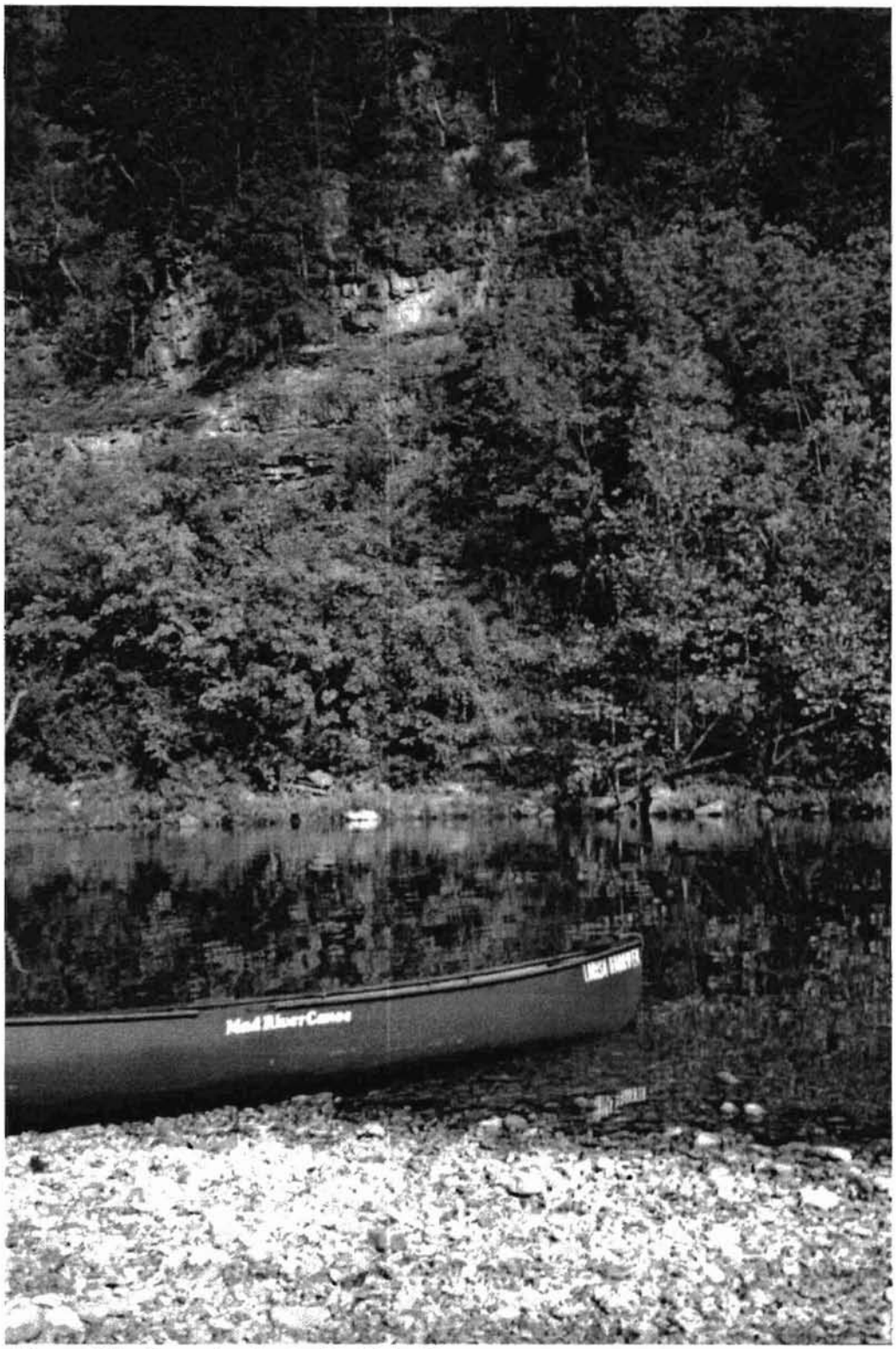


Figure 15. Canoeing in the Buffalo River. Photo by author

property owners have opted to establish Bed and Breakfasts or cabins. By license from the National Park Service, concessionaires are allowed. Associated with the floating opportunities of the river, there are places to rent canoes, to receive shuttles for private boats, or to take a tour on the lower Buffalo (Smith, personal communication March 22, 1998).

Protected Landscape/Seascape Attributes
Distinct character due to interaction between people and nature over time - Boxely Valley, continued agricultural area with historic structures - Richland Valley, continued agricultural area
Contains significant aesthetic, ecological, and cultural value - Boxely Valley, aesthetic and cultural value - Richland Valley, aesthetic and cultural value - Wilderness areas, ecological value - Buffalo River, ecological and aesthetic value
Management Goals
Landscape Conservation - Wilderness areas, limit development within watershed to protect water quality, serve as habitat for various species - Continued occupancy arrangements with inhabitants, continuation of traditional land use for the area preserving scenic quality
Recreation - Numerous hiking trails - Canoeing opportunities - Visitor's center and developed camp grounds - Formalized education programs

Table 15. *Protected Landscape/Seascape* Qualification Chart, Buffalo National River.

Summary

The Buffalo National River, situated in the sparsely populated area of the rugged Ozark Mountains of northern Arkansas, has been the object of controversy between local inhabitants and outside interests. One of the last free flowing streams in the nation, the establishment of protection for this river was the result of a long battle between various interests and involved the participation of prominent political figures. The character of

the area is representative of the region and its history of landuse and it cannot be expected that these characteristics would be duplicated elsewhere. The establishment and management of the protected landscape have occurred at the national level. But essential to this establishment was the support and determination of individuals and groups at the national, regional, and local levels.

Perhaps it was the character of the Ozark people themselves – independent and distrustful of the government - that resistance against establishment of the park was so strong. Outnumbered and politically outgunned, it was inevitable that the outcome would be as it is. But this struggle is also indicative of the variety of interest groups in the nation, and it offers an example of one approach toward conservation.

> The struggle to save the Buffalo River in the Arkansas Ozarks brought to the fore manifestations of a worldwide plague generated by the hand and mind of man. If we in our great wisdom cannot develop insight enough to control that affliction, we might well become the principle agents in the ruination of our only possible home in the universe (Compton 1992, p. xi).

CHAPTER VI.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The pursuit of conservation becomes complex when the casts of affected characters are considered. Political, social, and economic concerns are at play at the individual, local, regional, national, and international levels. Understanding the degree of cooperation that occurs at these levels would be contributive to the goal of preserving natural areas and associated human-modified cultural landscapes.

To achieve sustainability, the varieties of capital need to be recognized and appreciated. Nature's capital, human capital, human-created capital, social capital, and cultural capital all play a role in economical and ecological sustainability (Viederman 1996). Protected areas are a valuable inclusion of an environmentally sustainable system. They serve as social, economical, and ecological augments to our lives. Making such a system function requires multilevel cooperation. But essential to the entire process is the participation and support of the local inhabitants. Their adjacency to the protected area carries with it social and economic as well as physical ties. Gaining their cooperation may be attempted either through formal or informal means (Lucus 1984, 1992).

Perhaps the first step toward cooperation is agreement of terms. Since nations may be applying different labels to the same type of protected area, an international classification system was created based on the general management objectives of the protected area (The World Conservation Union 1994). This allows for the comparison of information at an international scale.

Understanding a landscape is important in the goal of conservation. Knowing the events that have shaped its character allows values to be declared and makes the establishment of policies an easier task. It must be realized that landscapes are an amalgamation of the phenomena that shape them: the environment and the history of human interaction with that environment.

The purpose of this study has been to bring two protected areas, one in southern Sweden and the other in the central United States, into a context of individual, local, regional, national, and international cooperation for conservation and sustainability. The two sites, Häckeberga Naturvårdsområde and the Buffalo National River, share an international classification as *Protected Landscape/Seascape*, a classification that provides protection and opportunities for recreation on lands whose character has evolved through traditional interactions. Beyond this, the two sites differ in scale, environment, classification, and management bodies within their respective nations. The objective was to unearth the physical and cultural differences between these two areas, the differences in approach toward the shared management objective, and the reasons behind such variations. The themes examined were settlement history of the sites and regions, roads to establishment of protection, and management practices and bodies.

Discussion of Research Questions

Reviewing and addressing the research questions is now pertinent to this study. Discussion of each of the three questions will be followed by discussion of the accompanying hypotheses.

Question 1. What are the means utilized by Häckeberga Naturvårdsområde and the Buffalo National River in achieving functionality of these protected landscapes? As a *Protected Landscape/Seascape*, the objective is to safeguard the integrity of the traditional interaction between man and nature while providing opportunities for recreation. Both of the study sites are examples of human traditional interaction with the landscape, primarily through agriculture, forestry, and some mining. Mechanisms for achieving this conservation goal begin with the establishment of protected status, accomplished through the creation of or adherence to national rules and definitions for conservation. The involvement of several actors at various levels was shown in this establishment of protection.

The mechanisms particular to Sweden in this example were the compliance of the individual to an already existing mandate, and the necessity of gaining permission before making significant changes to the landscape. The national classification applied to the protected area lacked a lot of instruction. Instead, agreements were arranged between the local and regional bodies. However, compliance with national conservation laws was necessary. No significant disputes or resistance to establishment of the site as a protected area was discovered. But only one individual landowner was directly involved with negotiations, and there were no plans for radical development by either the landowner or other agencies.

For the United States, control of this designation of protected area was given to a federal agency, the National Park Service. Establishment of the park required an act of congress and the support of the executive branch of the government. This was in response to the great amount of outside support for the park. Non-governmental organizations, such as the Ozark Society, played a crucial role in gaining support for its establishment. Local cooperation, however, with the exception of some farmers who feared having their fields flooded by development of dams by the Army Corps of Engineers, was vary rare. In fact, resistance to park establishment was quite heated and adamant (Compton 1992).

Question 2. How do they fit into the international and the respective national management objectives? In terms of international objectives, neither site is directly subject to international management objectives. While international organizations, such as the WCMC and the IUCN, support and encourage establishment of protected areas, such establishment and management is the responsibility of national governments.

Häckeberga was subject to national laws for protection of wetlands and deciduous forests. With the establishment of protection, the individual landowner reached compliance with national laws, satisfied the wishes of the local environmental group for conservation of the area, and received government support for the upkeep of his property.

Establishment of the Buffalo National River was not due to compliance with any national laws, although the passing of a bill into law resulted in the national river's founding. The river has then become subject to the practices and policies set forth for the protection area. Of great importance for the establishment of the protected landscape was

the deep involvement of NGOs of various skills and of influential and persistent individuals.

Question 3. What are the reasons for any variations in these mechanisms and practices between the two sites? The variation of these mechanisms for the two study sites is due largely to the amount of the representative land under ownership. The whole of Häckeberga is privately owned, and it is comparatively small. The type of intervention needed was relatively simple, inexpensive, and not requiring control on a large scale. Buffalo National River is much larger and is almost entirely unsettled due to its rugged topography. Its international classification as a protected landscape is because of the small number of people utilizing the land in Boxley Valley and the wish to preserve this relatively small cultural landscape. The number of individual landholders in the area made negotiations for land use and land retention more complicated.

Question 4. What role do the sites play in the goal of sustainability for these developed nations? This question cannot be adequately answered from the information presented within this paper. A closer, longitudinal examination of the economic conditions of the inhabitants and of the ecological health of the areas is needed. But some comparisons can be made. Häckeberga Naturvårdsområde might be considered to be a better example of fitting into a sustainable system. Nearly the entirety of the area is of economic benefit to the landowner. Maintenance of the area brings employment to those who need it. And the expense for its management is fairly small. The Buffalo National River is a large area that brings economic gain to a few. One could argue that this is due to its rugged terrain. But limitations on use and development are oriented toward protection of the river itself rather than maximal use of the resources.

Discussion of Research Expectations

A set of expectations accompanied this investigation, and they are discussed here:

1. While all levels of institutions are involved in the establishment of protected landscapes, their successful functionality is the result of localized efforts.

This expectation was largely correct. Both protected areas achieved functionality but with different degrees of multilevel and local support. In Sweden, national environmental protection laws were in accordance with international agreements, and these national laws were well enforced and largely adequately funded. Nature conservation areas, however, did not receive substantial or direct funding. In the case of Häckeberga, complete private ownership greatly simplified negotiations and management. Local and regional NGOs supported the establishment of the protected area, but there was no need for strong lobbying to overcome severe opposition.

The Buffalo National River received little support by the local inhabitants. Cooperation between NGOs, other advocacy groups, and key lawmakers proved to be decisive in the establishment of the park. But there was a great amount of adversarial activity at all levels, between local inhabitants, some NGOs, and certain governmental officials that favored development over conservation. Successful operation of the park is accomplished by a large governmental department favorable to conservation, and its activities are in compliance with national standards and mandates for environmental protection. But much of this is accomplished with the continued support of favorable NGOs and individuals (Bass 1991).

2. The two sites (and their accompanying institutions) display a nearly equivalent amount of inter-level cooperation in the implementation of protected status.

This expectation was largely incorrect. As already discussed, there was a great deal of disparity in the amount of inter-level cooperation displayed for both sites for the establishment of protection. With the exception of the landowner, who held economic concerns, the case in Sweden proved to be one of cooperation and agreement by most interested parties. The situation in the United States, however, was adversarial. The number of individuals to be directly affected by proposed plans for the river was quite large. The stakes were quite high for all concerned, and arguments were terse.

3. Both sites will qualify for their international classification of *Protected Landscape/Seascape*, but the degree to which this is done is dependent on the various physical and cultural activities that have played a role in the respective areas.

Both areas satisfied the objectives of the international classification as management objectives for conservation of culture and nature were being attained. The terrain and the pattern of settlement did play a role, obviously, in the character of the protected areas. Häckeberga, owned by one family, faced less controversy and perhaps fewer attempts at exploitation. The Buffalo River, with its rough terrain, resisted settlement and exploitation, thus allowing it to remain in a relatively natural state and allowing much of the land to be federally owned.

Both sites are utilized for recreation, and visitors are able to witness both the natural and cultural features of the areas. The opportunities for recreation in the Buffalo National River are more oriented toward outdoor sports such as canoeing, hiking, and camping. Häckeberga also holds opportunities for outdoor sports such as hiking and hunting. Other

recreational activities that occur at both sites include site seeing and picnicking. The topography of the areas is largely determinant of the type of recreational activities taking place. Educational activities are occurring at both sites, but they are greatly more formalized along the Buffalo River.

Conclusions

The most immediate observation about the two study sites and their conservation within the contexts of their respective nations is the amount of top-down and/or bottom-up approach toward protection status. In the establishment of the protected landscapes, the degree if influence of the various actors and circumstances varied (Table 16).

Sweden seems to have utilized more of an integration of these two approaches. Adherence to national objectives was done with no evidence of significant fuss or complaint. Reasons for this may be due to the national character of Sweden, its great regard for nature and its willingness to think in terms of the collective good rather than individual desires. A more easily explainable, and perhaps acceptable, reason is the limited number of people directly economically affected by the proposition of conservation. Negotiations were much simpler than those at the Buffalo National River and could be easily accomplished through a provincial administration.

The United States, in contrast, took more of a top-down approach. At least in the area studied, it was required that its establishment be the result of a national declaration. Due to the adversarial system prevalent in the United States, gaining the support of or working with the local inhabitants was not a consideration until details for the park establishment began to materialize. While the advocacy of NGOs played a crucial role in gaining

Häckeberga Naturvårdsområde	Buffalo National River
Number of people directly affected	
The small number of people directly affected (one owner, few renters) made negotiations between landowner and government agencies much simpler than for the Buffalo National River. The involvement of additional organizations (such as NGOs0 or individuals was in a manner supportive to conservation.	In contrast, the number of individuals directly affected y proposals for the Buffalo River was quite large. Damming economically threatened local farmers and caused grave concern for environmentalists. Many inhabitants for the potential increase in property value favored damming. The counties feared federal protection status due to lost tax revenue.
Adherence to national laws	
National laws for the protection of wetlands and deciduous forests was the impetus for establishment of area protection. Adherence to these laws was easily negotiated between landowner and provincial administration. This action was supported and endorsed by local NGO.	No national laws for overall protection of rivers was in existence. An act of congress allowed for establishment of area protection by a federal body. For this act to be passed, the adamant support and lobbying by NGOs and influential individuals was required.
Nature of proposed action	
The proposed action for this site was not severe or drastic. There were to be no exchanges in ownership of property and no significant loss in revenue by implementation of area protection. Restrictions applied to the landowner concerned any changes in use. Changes can still be implemented but only upon agreement with provincial administration.	The proposed action in this location, the damming of the Buffalo River, hand far reaching and permanent consequences and would affect the lives and livelihoods of many. Federal control of the area was also odious to many who did not want to surrender private property.

Table 16. Influential factors in area protection.

protection for the river, such action cannot be considered a bottom-up approach to conservation because it was not the local inhabitants who were greatly in support. It was those not living alongside the river that organized and pushed for preservation. While some compromise did occur between the two forces, i.e. reduction of the initial proposed size of the park and the inclusion of easements as a means of retaining historical remnants, initial discussion of the matter was of a win/lose variety. Much of the battle for the river's protection was due to the extremes of the proposed possible futures for the river: damming or preservation. Many locals favored damming hoping that this would increase property values in an economically troubled area.

The two scenarios that have been played-out reveal the importance of economic ties to the landscape. At both sites resistance to protection was due to economic concerns. Such concerns along the Buffalo River were much greater than that in Sweden due to the number of individuals involved as well as the types of dramatic changes proposed. These conflicts display the continuing struggle between society and the individual. The varying degree of conflict involved at these two sites demonstrates the increased complexity of a situation when the number of participants with varying interests involved also increases.

Recommendations

This has been an investigation into the social aspects of environmental conservation, with an emphasis the meeting classification objectives and on the cooperation needed at various levels to reach this goal. Examination of the literature and of the two study sights has been done with the idea of social agreement and compliance in mind. To gain a greater understanding of the success of these two *protected landscapes*, a study similar to that done at the national parks in England (Tourism and Recreation Research Unit 1981) would need to be done at these locations as well.

Concluding Comment

Investigation into these themes has proved to be invigorating and educational to the author, and it is hoped that the same has been true for the readers. It is also hoped that discussion of these themes, as they have applied to these two case studies, may provide important information to policy makers and landscape managers, revealing to them the

types of difficulties they may face depending in the type of situation they find themselves in. It is also hoped that this discussion will lead to further research efforts on this topic.

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APPENDIX

INTERNATIONAL CATEGORIES FOR PROTECTED AREAS

CATEGORY Ia: STRICT NATURE RESERVE: protected area managed mainly for science. **DEFINITION:** Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.

CATEGORY Ib: WILDERNESS AREA: protected area managed mainly for wilderness protection. **DEFINITION:** Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.

CATEGORY II: NATIONAL PARK: protected area managed mainly for ecosystem protection and recreation. **DEFINITION:** Natural area of land and/or sea, designated to (a) protect the ecological integrity of one more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

CATEGORY III: Natural Monument: protected area managed mainly for conservation of specific features. **DEFINITION:** Area containing one, ore more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

CATEGORY IV: HABITAT/SPECIES MAMAGEMENT AREA: protected area managed mainly for conservation through management intervention. **DEFINITION:** Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species

CATEGORY V: PROTECTED LANDSCAPES/SEASCAPES: protected area managed mainly for landscape/seascape conservation and recreation. **DEEFINITION:** Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

CATEGORY VI: MANAGED RESOURCE PROTECTED AREA: protected area managed mainly for sustainable use of natural ecosystems. **DEFINITION:** Area containing predominately unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

World Conservation Monitoring Centre 1998b

VITA

MARK DANIEL LYNN CARPER

Candidate for the Degree of

Master of Science

Thesis: AN EVALUATION OF THE DEFINITION OF THE PROTECTED LANDSCAPE: A CASE STUDY OF HÄCKEBERGA NATURVÅRDSOMRÅDE, SWEDEN, AND THE BUFFALO NATIONAL RIVER, UNITED STATES

Major Field: Geography

Biographical

Education Graduate of Owasso High School, Owasso, Oklahoma in May of 1981 Received Bachelor of Arts degree in Philosophy with a minor in English from Oklahoma State University, Stillwater, Oklahoma in July 1990. Completed the requirements for the Master of Science degree with a major in Geography at Oklahoma State University in December 1998.

Experience: Traveled through Europe and studied Environmental and Technology Policy at Lund University, Lund, Sweden. Employed by the Geography Department at Oklahoma State University as a Teaching Assistant for Physical Geography Also employed as field surveyor for a Geographic Positioning System and Geographic Information System mapping project for Conoco Oil

Professional Memberships: Association of American Geographers